Service Manual

Nakamichi Receiver 2

CONTENTS

1. GENERAL

1.1. Production No.

Production No.: D113

1.2. Destinations

USA, CAN, EP, UK, AUS, OTR, JPN

Abbreviation

USA — U.S.A.	AUS — Australia
CAN — Canada	OTR — Other
EP — Europe	JPN — Japan
UK — United Kingdom	

1.3. Parts Supply

(1) Unstocked Parts

Parts marked with "★" at the head of part No. are not stocked. So, it takes time to supply the parts after we receive your order.

(2) Unsupplied Parts

Parts without part Nos. (indicated as "—" in the parts list) are not supplied.

1.4. CAUTIONS/WARNINGS

(1) Product Safety Notice

Parts marked with the symbol ⚠ in the schematic diagram have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.
It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

(2) Leakage Current Check/Resistance Check

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective.
WARNING — DO NOT return the unit to the customer until the problem is located and corrected.

(3) Lithium Battery Caution

Use ONLY replacement parts recommended by the manufacturer. Replacement must be done only by qualified service personnel because of risk for explosion.

VARNING
Litiumbatteri. Explosionsfara vid felaktig hantering. Byte får endast ske av sakkunnig personal enligt servicedokumentationens anvisningar.

ADVARSEL!
Lithiumbatterier. Eksplosionsfare. Udskiftning må kun foretages af en sagkyndig og som beskrevet i servicemanualen.
batterierne kun må udsklftes med batterier af samme fabrikat og type.

(4) Resetting the MPU After Repair

When the Receiver 2 does not work properly with the button operation after repair or after replacing the battery (the display shows abnormal indication), reset the Microprocessing Unit (MPU) U001 (μPD75208CW-A77) on the Display & Control P.C.B. Ass'y as follows:

1. Withe the power turned ON, ground the Reset Point on the Display & Control P.C.B. Ass'y.
   (See Fig. 6.10 Reset Point: Positive side of C002.)
2. Since the memory contents are cleared, reset them again.

VOLTAGE SELECTOR

Voltage selector is installed on the Rear Panel. The voltage selector can select 110, 120, 220, or 240V at customer's disposal.

1.5. Package Ass'y

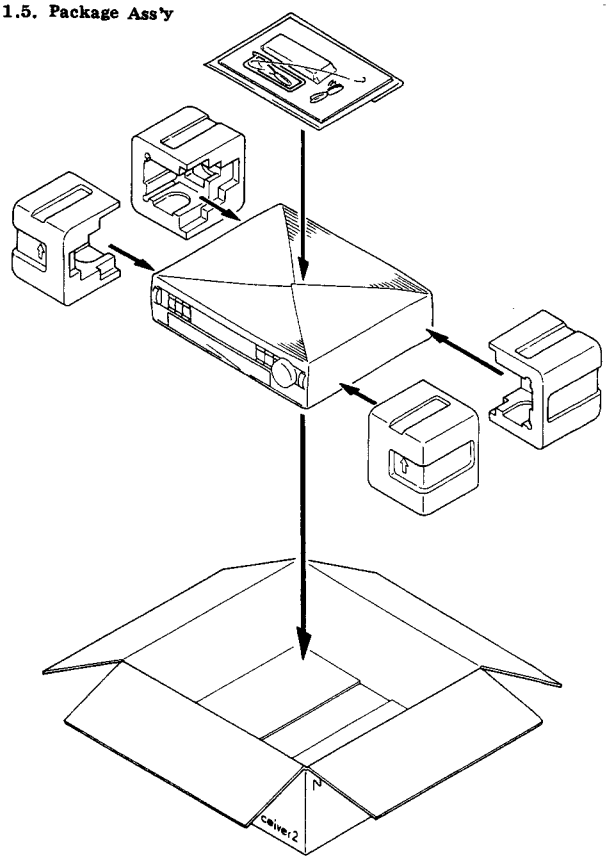


Fig. 1.1

Note: When shipping, the side packings as shown in Fig. 1.1 are used. However, front packing and rear packing listed are supplied as spare parts.

Schematic Ref. No.	Part No.	Description	Q'ty
	—	**Package Ass'y**	
	0F04498A	Front Packing	1
	0F04499A	Rear Packing	1
	0F04493A	Carton	1

1.6. Accessory Ass'y

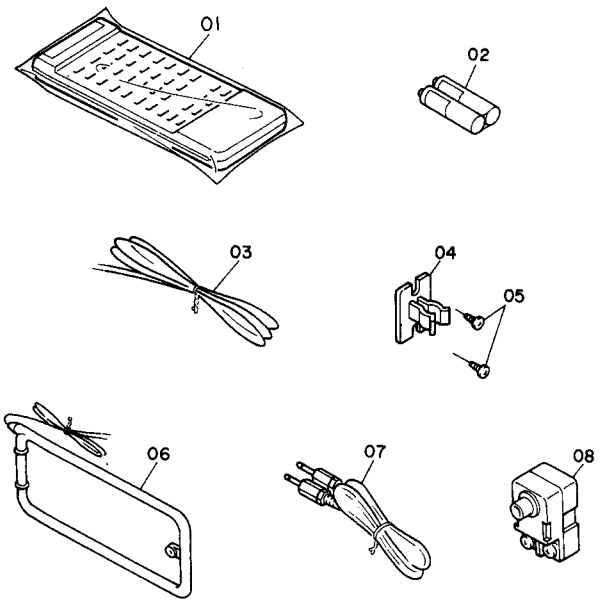


Fig. 1.2

Schematic Ref. No.	Part No.	Description	Q'ty
	CA81707A	Accessory Ass'y (USA, CAN, OTR)	1
	CA81801A	Accessory Ass'y (EP, UK, AUS)	1
	DA04446A	Accessory Ass'y (JPN)	1
01	CA81723A	Remote Control Unit	1
02	0B90341A	Battery AA Typex2	1
03	0C85437A	Feeder Antenna (USA, CAN, AUS, OTR)	1
	0B90320A	Feeder Antenna (EP, UK, JPN)	1
04	0B90319A	Loop Antenna Holder	1
05	0E03659A	3x12 ⊕ Tapping (Black Chromate)	2
06	0C85374A	AM Loop Antenna	1
07	0C85415A	Remote Control Cable	1
08	0B90208A	Antenna Adapter (EP, UK)	1
	0B90194A	Antenna Adapter F (JPN)	1
	0C85308A	Owner's Manual (English/German/French)	1
	0D06154A	Owner's Manual (Japanese)	1

2. REMOVAL PROCEDURES

2.1. Top Cover Ass'y

Refer to Fig. 2.1.

(1) Loosen screws F01 (5 pcs.) and remove F02 (Top Cover Ass'y).

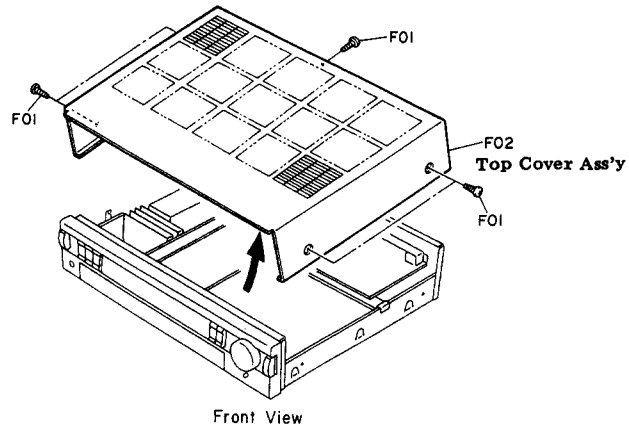


Fig. 2.1

2.2. Bottom Cover Ass'y

Refer to Fig. 2.2.

(1) Loosen screws F01 (9 pcs.) and F02 (1 pce.) and remove F03 (Bottom Cover Ass'y).

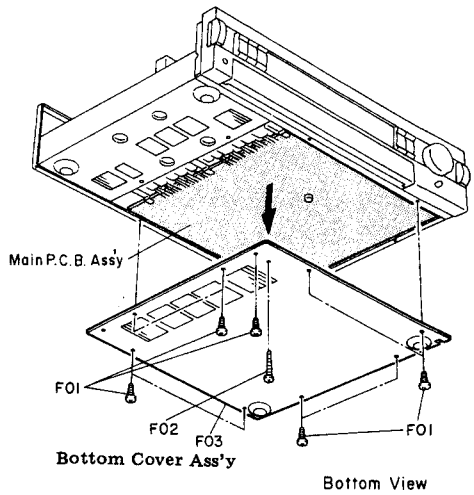


Fig. 2.2

2.3. Sealing Panel

Refer to Fig. 2.3.

(1) Loosen screws F01 (2 pcs.) and remove F02 (Sealing Panel).

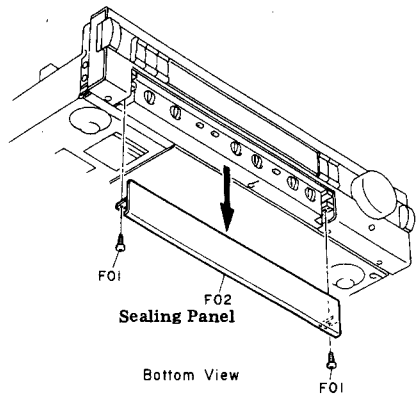
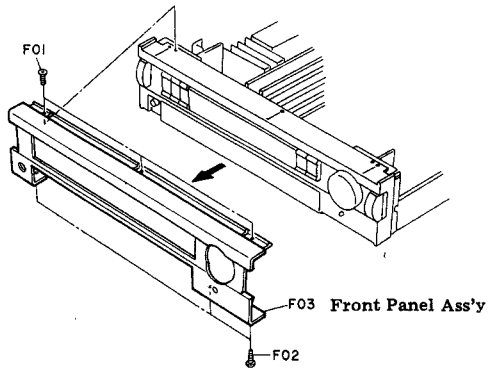


Fig. 2.3

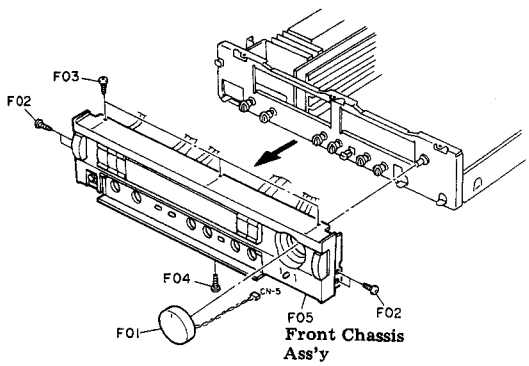
2.4. Front Panel Ass'y
Refer to Fig. 2.4.
(1) Remove the Top Cover Ass'y referring to item 2.1.
(2) Loosen screws F01 (3 pcs.) and F02 (3 pcs.) and remove F03 (Front Panel Ass'y).



Front View

Fig. 2.4

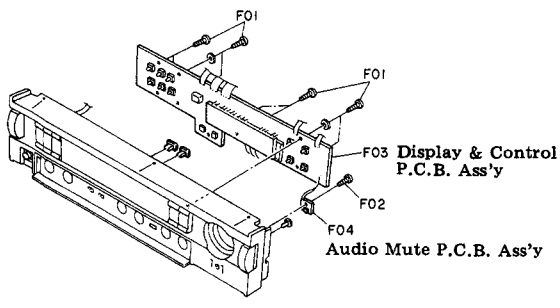
2.5. Front Chassis Ass'y
Refer to Fig. 2.5.
(1) Remove the Front Panel Ass'y referring to item 2.4.
(2) Disconnect the connector CN-5 from the Main P.C.B. Ass'y and pull out F01 (Volume Knob Ass'y)
(3) Loosen screws F02 (4 pcs.), F03 (3 pcs.) and F04 (1 pce.).
(4) Disconnect all connectors (11 pcs.) and remove F05 (Front Chassis Ass'y).



Front View

Fig. 2.5

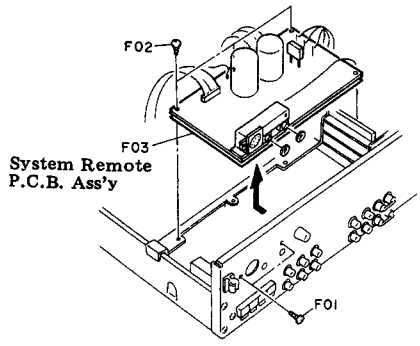
2.6. Display & Control P.C.B. Ass'y and Audio Mute P.C.B. Ass'y
Refer to Fig. 2.6.
(1) Remove the Front Chassis Ass'y referring to item 2.5.
(2) Loosen screws F01 (8 pcs.) and F02 (1 pce.), and remove F03 (Display & Control P.C.B. Ass'y) and F04 (Audio Mute P.C.B. Ass'y).



Front View

Fig. 2.6

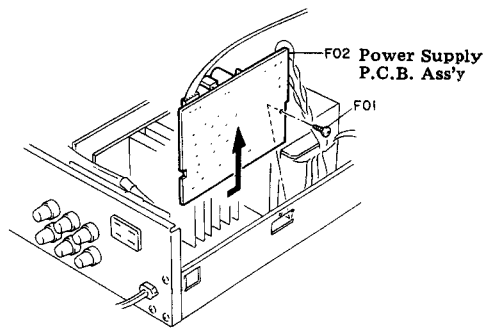
2.7. System Remote P.C.B. Ass'y
Refer to Fig. 2.7.
(1) Remove the Top Cover Ass'y referring to item 2.1.
(2) Loosen screws F01 (2 pcs.) and F02 (3 pcs.), and remove F03 (System Remote P.C.B. Ass'y) in the direction of the arrow.



Rear View

Fig. 2.7

2.8. Power Supply P.C.B. Ass'y
Refer to Fig. 2.8.
(1) Remove the Top Cover Ass'y referring to item 2.1.
(2) Loosen a screw F01 and remove F02 (Power Supply P.C.B. Ass'y).



Rear View

Fig. 2.8

3. PARTS LOCATION FOR ELECTRICAL ADJUSTMENT

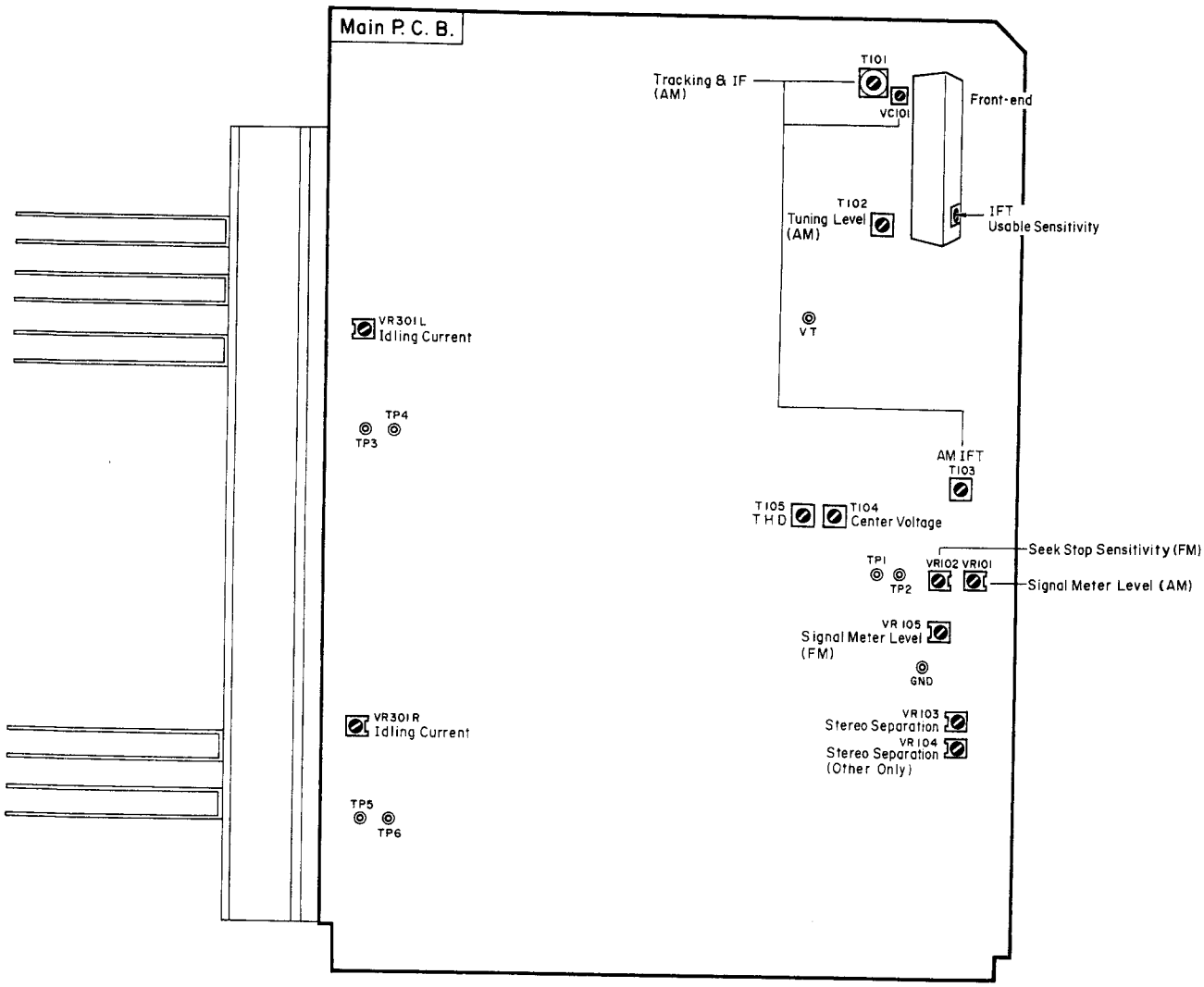


Fig. 3

4. ELECTRICAL ADJUSTMENTS

4.1. Power Amplifier Section

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	MODE	ADJUST-MENT	REMARKS
1	Idling Current	None	DC Voltmeter between TP3,4 (L) and TP5,6 (R) on Main P.C.B.	Listen Monitor Selector - CD Volume - Min. Speaker Selector - OFF	Main P.C.B. VR301L VR301R	1. Insert shorting plugs into the CD Player Input Jacks. 2. Turn ON the power and allow 3 minutes before adjustment. (Top Cover must be installed in this period of time.) 3. Adjust VR301L (VR301R) to obtain 4 mV ±1 mV on the DC voltmeter.

4.2. Tuner Section

Note: Adjustment should be made in a shielded room in principle.

(1) FM Tuner Section

STEP	ITEM	OUTPUT CONNECTION	MODE	ADJUST-MENT	REMARKS
1	Preliminary Step	See Fig. 4.1	Receiver 2 Listen Monitor Selector - Tuner Band Selector - FM Rec.Out Selector - Tuner Signal Generator Freq. - 98.1 MHz - 83 MHz (Japan) RF Level - 65 dBf Modulation - See REMARKS		1. Set the Receiver 2 as indicated in the MODE. 2. Adjustment and confirmation should be made after tuning in to the set carrier frequency of the Signal Generator. Note: Contents of modulation 1. For U.S.A., Canada, Other (Wide) & Japan o Stereo Audio: 1 kHz, 91% Pilot: 19 kHz, 9% o Mono Audio: 1 kHz, 100% 2. For Australia, Europe & Other (Narrow) o Stereo Audio: 1 kHz, 51% Pilot: 19 kHz, 9% o Mono Audio: 1 kHz, 60%
2	Usable Sensitivity Adjustment	Distortion Meter to Tape Record Output Jacks	Receiver 2 Same as above Signal Generator Freq. - 98.1 MHz - 83 MHz (Japan) RF Level - 13.5 dBf Modulation - Mono	Main P.C.B. Front-end IFT	1. Set the Receiver 2 to Manual mode by pressing the Tuning Mode button. 2. Adjust the IFT to obtain minimum distortion (total harmonic distortion (THD): 3% or less). 3. Set the frequency of the Signal Generator to 90.1 MHz/106.1 MHz and check that the THD is 3% or less.
3	Center Voltage and THD Adjustment	DC Voltmeter between TP1 & TP2 on Main P.C.B. and Distortion Meter to Tape Record Output Jacks	Receiver 2 Same as above Signal Generator Freq. - 98.1 MHz - 83 MHz (Japan) RF Level - 65 dBf Modulation - Mono	Main P.C.B. T104 T105	1. Set the Receiver 2 to Manual mode. 2. Adjust T104 so that the reading on the DC voltmeter is 0 V ±20 mV. 3. Adjust T105 to obtain minimum distortion (THD: 0.08% or less). Repeat 2 and 3, if necessary.
4	Seek Stop Sensitivity Adjustment	Oscilloscope to Tape Record Output Jacks	Receiver 2 Same as above Signal Generator Freq. - 98.1 MHz - 83 MHz (Japan) RF Level - 30 dBf Modulation - Stereo	Main P.C.B. VR102	1. Set the Receiver 2 to Auto mode. 2. Rotate VR102 fully counterclockwise. Then, return it clockwise gradually until a waveform appears on the oscilloscope. 3. Decrease the RF level of the Signal Generator until the waveform on the oscilloscope disappears. Then increase the RF level gradually until a waveform appears again. At this point, check that the RF level of the Signal Generator is 30 dBf ±6 dB.

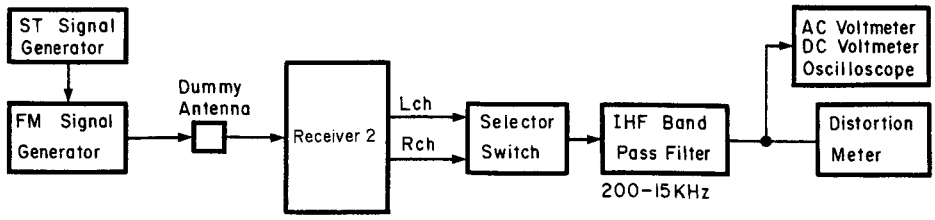


Fig. 4.1 FM Measuring Connecting Diagram

STEP	ITEM	OUTPUT CONNECTION	MODE	ADJUST-MENT	REMARKS
5	Signal Meter Level Adjustment	None	Receiver 2 Same as above Signal Generator Freq. - 98.1 MHz - 83 MHz (Japan) RF Level - 52 dBf Modulation - Stereo	Main P.C.B. VR105	1. Set the Receiver 2 to Auto mode. 2. Adjust VR105 so that all segments (1 - 5) of the signal level indicator light up. 3. Decrease the RF level of the Signal Generator to distinguish the segment 5. Next, increase it gradually so that the segment 5 starts illuminating. At this point, check that the RF level of the Signal Generator is 52 dBf ±5dB.
6	Stereo Separation Adjustment	AC Voltmeter to Tape Record Output Jacks	Receiver 2 Same as above Signal Generator Freq. - 98.1 MHz - 83 MHz (Japan) RF Level - 65 dBf Modulation - L or R only	Main P.C.B. VR103 VR104 (Other only)	For U.S.A., Canada, Europe, Australia & Japan versions: 1. Set the Receiver 2 to Auto mode. 2. Apply modulation to only L channel. 3. Adjust VR103 to obtain minimum reading on the AC voltmeter at the R channel output jack. 4. Apply modulation to only R channel. 5. Check that the reading on the AC voltmeter at the L channel output jack is within ±1 dB with respect to the reading in 3. If not, repeat 2 through 4. For Other version: 1. Set the switches on the rear panel as follows: Freq. Step FM/AM - 100 kHz/10 kHz IF Band - Wide 2. Apply the same procedures as above. 3. Set the switches as follows: Freq. step FM/AM - 50 kHz/9 kHz IF Band - Narrow 4. Apply the same procedures as mentioned above. However, adjust VR104 instead of VR103.

(2) AM Tuner Section

Note: Frequencies for Australia, Europe and Other (Narrow) are indicated in parentheses.

STEP	ITEM	OUTPUT CONNECTION	MODE	ADJUST-MENT	REMARKS
1	Tuning Level Adjustment	DC Voltmeter between TP (VT) and TP (GND) on Main P.C.B.	Receiver 2 Listen Monitor Selector - Tuner Band Selector - AM Rec.out selector - Tuner Signal Generator Freq. - 520 (522) kHz/ 1710 (1611) kHz Modulation - 400 Hz 30%	Main P.C.B. T102	1. Set the frequency of the Signal Generator to 520 kHz (522 kHz) and make tuning. 2. Adjust T102 to obtain 2.4 V±0.1V on the DC voltmeter. 3. Change the frequency to 1710 kHz (1611 kHz) and make tuning. Check whether the DC voltmeter reads 15 V to 16 V.
2	Tracking and IF Adjustment	AC Voltmeter to Tape Record Output Jacks	Receiver 2 Same as above Signal Generator Freq. - 600 (603) kHz/ 1400 (1404) kHz RF Level - 82 dBμ Modulation - 400 Hz 30%	Main P.C.B. T101 T103 VC101	1. Set the measurement instruments as shown in Fig. 4.2. Set the distance between the AM Loop Antenna of the Receiver 2 and a test loop to 60 cm. To obtain 56 dBμ/m at the AM Loop Antenna, set the RF level output of the AM Signal Generator to 82 dBμ as loss is 26 dB in this setting. 2. Set the frequency of the Signal Generator to 600 kHz (603 kHz) and make tuning. 3. Adjust T101 to obtain maximum reading on the AC voltmeter. 4. Adjust T103 to obtain maximum reading on the AC voltmeter. 5. Set the frequency to 1400 kHz (1404 kHz) and make tuning. 6. Adjust VC101 to obtain maximum reading on the AC voltmeter. 7. Repeat 2 through 6 once.
3	Signal Meter Level Adjustment	None	Receiver 2 Same as above Signal Generator Freq. - 1000 (999) kHz RF Level - 100 dBμ Modulation - 400 Hz 30%	Main P.C.B. VR101	1. With the same setting as in Step 2, set the RF level output of the AM Signal Generator to 100 dBμ in order to obtain 80 dBμ/m at the AM Loop Antenna. 2. Adjust VR101 so that the segment 5 of the signal level indicator starts illuminating. Note: Before adjustment, select AM mode and wait for more than three minutes.

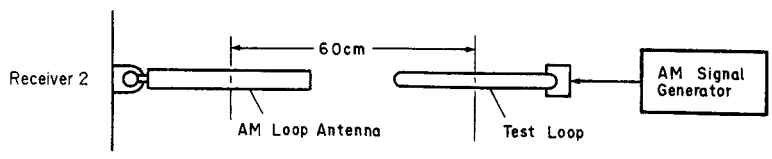


Fig. 4.2 AM Measuring Diagram

5. MECHANISM ASS'Y AND PARTS LIST

5.1. Synthesis

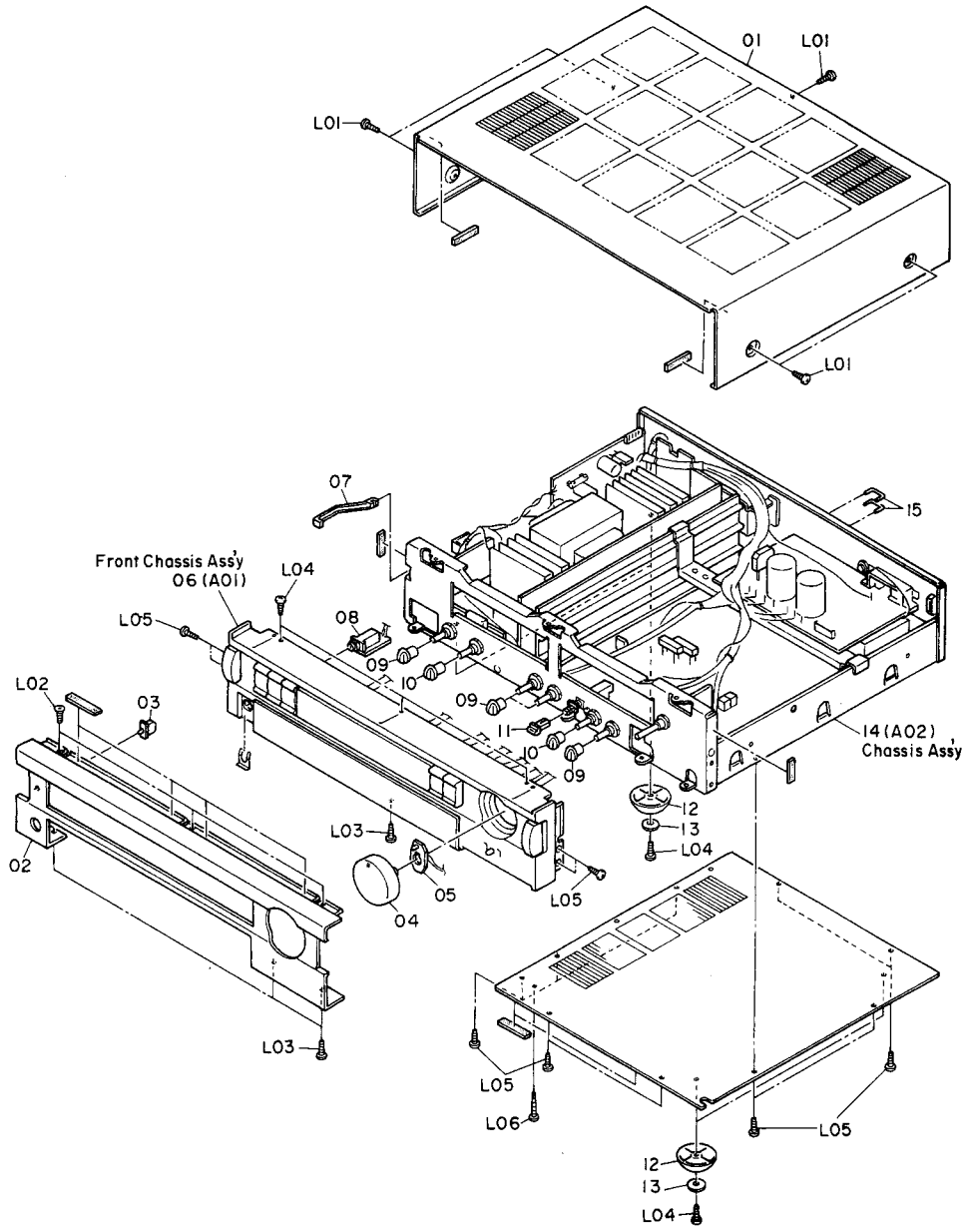


Fig. 5.1

★: Unstocked parts.

Schematic Ref. No.		Part No.	Description	Q'ty
5.1. Synthesis				
		—	**Synthesis**	
01		0C85459A	Top Cover	1
02		0C85463A	Front Panel	1
03		0C85342A	LED Lens	1
04		CA81683A	Volume Knob Ass'y	1
05	★	CA81715A	Volume LED P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)	1
	★	BA08179A	Volume LED P.C.B. Ass'y (JPN)	1
06		—	Front Chassis Ass'y	1
07		0C85357A	Power Switch Joint	1
08	★	CA81719A	Headphone P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)	1
	★	BA08183A	Headphone P.C.B. Ass'y (JPN)	1
09		0C85460A	Tone Knob DG	4
10		0C85461A	Tone Knob LG	2
11		0C85465A	Push Switch Knob DG	1
12		0C85356A	Leg	4
13		0C85358A	Leg Felt Sheet (USA, CAN, EP, UK, AUS, OTR)	4
		0H05993A	Leg Felt Sheet (JPN)	4
14		—	Chassis Ass'y	1
15		0J05710A	Shorting Pin	2
L01		0E03433A	BT3x6 ⊕ Binding Projected (Black Chromate)	
L02		0E03495A	BT3x10 ⊕ Countersunk (Black Chromate)	
L03		0E00948A	BT3x10 ⊕ Binding (Black Chromate)	
L04		0E00868A	BT3x8 ⊕ Binding	
L05		0E00857A	BT3x6 ⊕ Binding	
L06		0C85577A	BT3x16 ⊕ Binding (Tapping)	

5.2. Front Chassis Ass'y (A01)

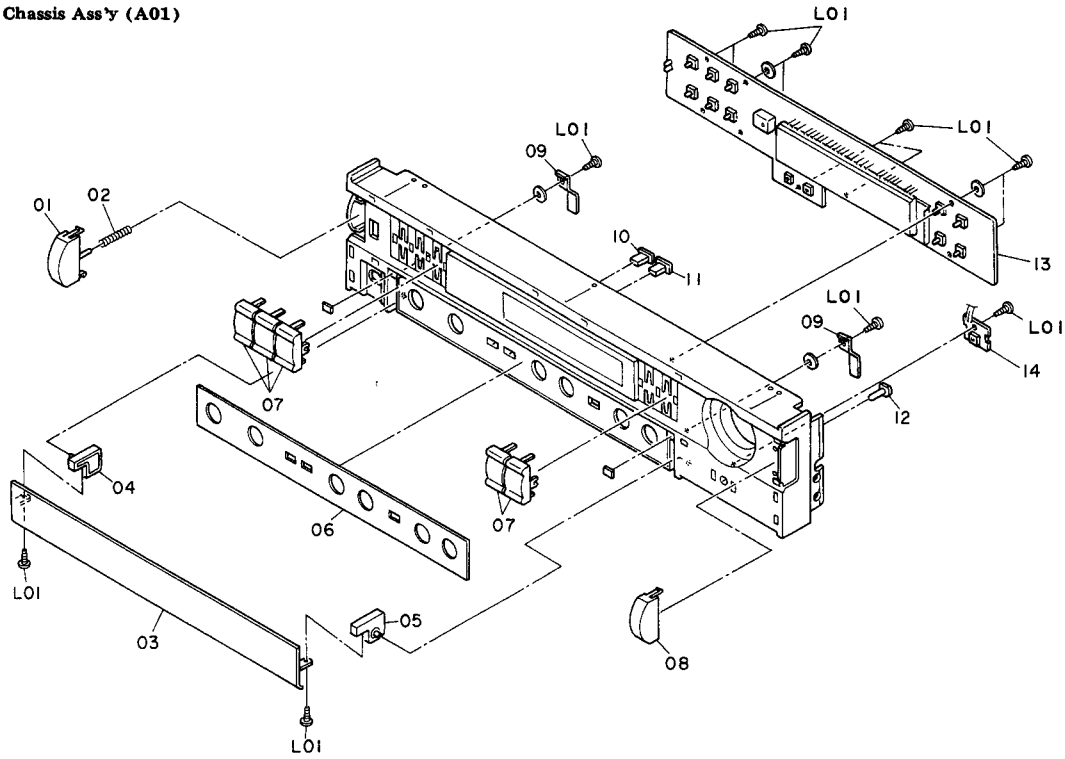


Fig. 5.2

★: Unstocked parts.

Schematic Ref. No.		Part No.	Description	Q'ty
5.2. Front Chassis Ass'y (A01)				
A01		—	**Front Chassis Ass'y**	1
01		0C85345A	Power Switch Knob	1
02		0C85347A	Power Switch Spring	1
03		0C85489A	Sealing Panel	1
04		0C85491A	Hinge L	1
05		0C85492A	Hinge R	1
06		0C86092A	Indication Panel	1
07		0C85390A	Control Knob	5
08		0C85389A	Dummy Cap	1
09		0C85490A	Door Spring	2
10		0C85467A	Tact Switch Knob DG	1
11		0C85469A	Tact Switch Knob LG	1
12		0C85468A	Mute Knob	1
13	★	CA81712A	Display & Control P.C.B. Ass'y (USA, CAN)	1
	★	CA81742A	Display & Control P.C.B. Ass'y (EP, UK)	1
	★	CA81805A	Display & Control P.C.B. Ass'y (AUS)	1
	★	CA81806A	Display & Control P.C.B. Ass'y (OTR)	1
	★	BA08176A	Display & Control P.C.B. Ass'y (JPN)	1
14	★	CA81713A	Audio Mute P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)	1
	★	BA08177A	Audio Mute P.C.B. Ass'y (JPN)	1
L01		0C85416A	PT3x8 ⊕ Binding	

5.3. Chassis Ass'y (A02)

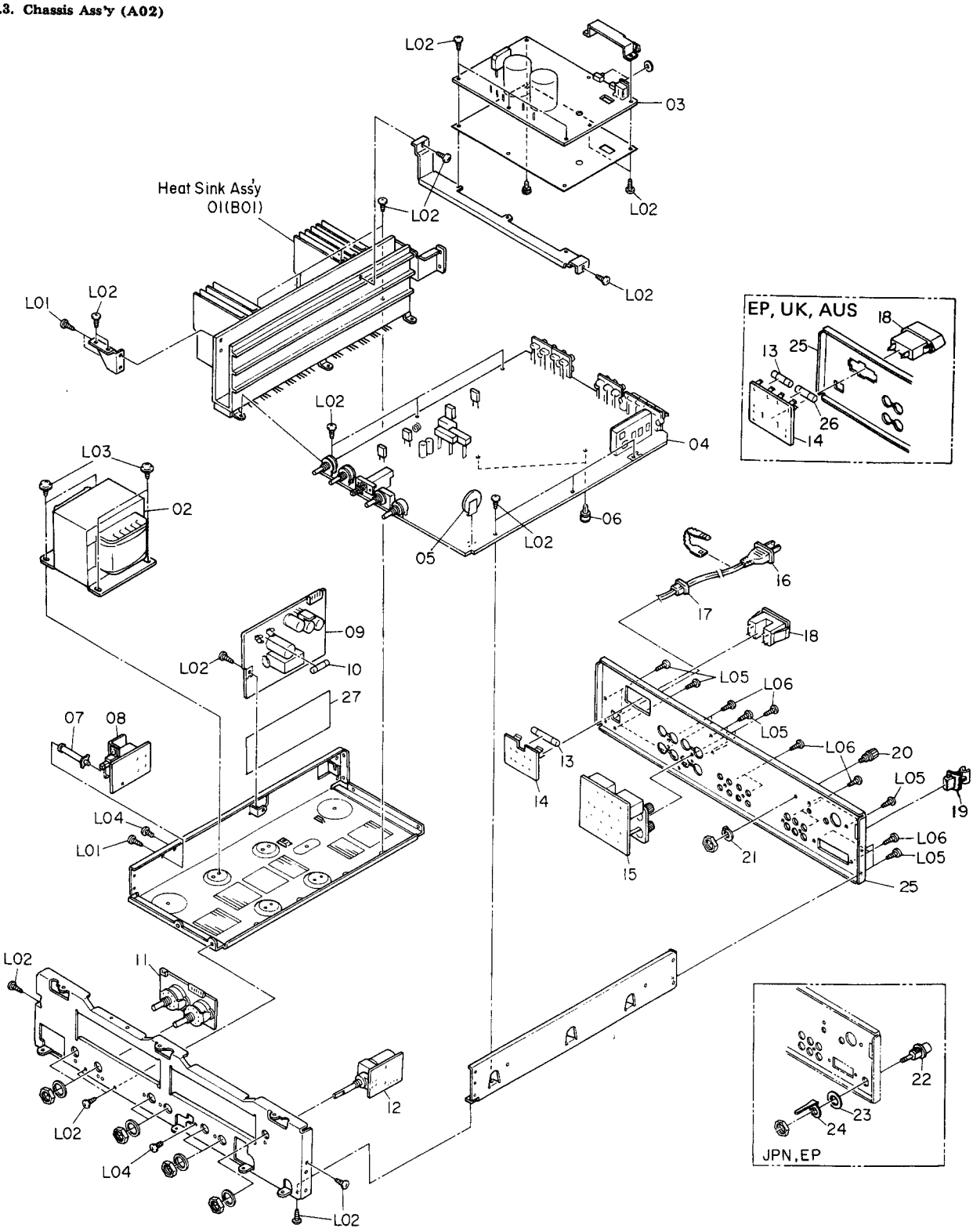


Fig. 5.3

★: Unstocked parts.

5.3. Chassis Ass'y (A02)

Schematic Ref. No.		Part No.	Description	Q'ty
A02		—	Chassis Ass'y	1
01		—	Heat Sink Ass'y	1
02		0C85476A	Power Transformer (USA, CAN)	1
		0C85595A	Power Transformer (EP, UK, AUS)	1
		0C85596A	Power Transformer (OTR)	1
		0C85549A	Power Transformer (JPN)	1
03	★	CA81721A	System Remote P.C.B. Ass'y (USA, CAN, OTR)	1
	★	CA81810A	System Remote P.C.B. Ass'y (EP, UK, AUS)	1
	★	BA08185A	System Remote P.C.B. Ass'y (JPN)	1
04	★	CA81705A	Main P.C.B. Ass'y (USA, CAN)	1
	★	CA81741A	Main P.C.B. Ass'y (EP)	1
	★	CA81802A	Main P.C.B. Ass'y (UK)	1
	★	CA81803A	Main P.C.B. Ass'y (AUS)	1
	★	CA81804A	Main P.C.B. Ass'y (OTR)	1
	★	BA08175A	Main P.C.B. Ass'y (JPN)	1
05		0B90200B	Lithium Battery UM-34	1
06		0C85351A	P.C.B. Support 6mm	2
07		0C85361A	P.C.B. Support 25mm	1
08	★	CA81720A	Power Switch P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)	1
	★	BA08184A	Power Switch P.C.B. Ass'y (JPN)	1
09	★	CA81716A	Power Supply P.C.B. Ass'y (USA, CAN)	1
	★	CA81743A	Power Supply P.C.B. Ass'y (EP, UK, AUS)	1
	★	CA81838A	Power Supply P.C.B. Ass'y (OTR)	1
	★	BA08180A	Power Supply P.C.B. Ass'y (JPN)	1
10		0B90329A	Fuse T1A 125V [F401] (USA, CAN, OTR)	1
		0B90289A	Fuse T1A 250V [F401] (EP, UK, AUS)	1
		0B90373A	Fuse 1A 250V [F401] (JPN)	1
11	★	CA81714A	Selector P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)	1
	★	BA08178A	Selector P.C.B. Ass'y (JPN)	1
12	★	CA81722A	Motor Volume P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)	1
	★	BA08186A	Motor Volume P.C.B. Ass'y (JPN)	1
13		0B90346A	Fuse T4A 250V [F402] (USA, CAN, OTR)	1
		0B90349A	Fuse T2A 250V [F402] (EP, UK AUS)	1
		0B90521A	Fuse 4A 250V [F402] (JPN)	1
14	★	CA81718A	AC Outlet P.C.B. Ass'y (USA, CAN)	1
	★	CA81745A	AC Outlet P.C.B. Ass'y (EP, UK)	1
	★	CA81808A	AC Outlet P.C.B. Ass'y (AUS)	1
	★	CA81809A	AC Outlet P.C.B. Ass'y (OTR)	1
	★	BA08182A	AC Outlet P.C.B. Ass'y (JPN)	1
15	★	CA81717A	Speaker Terminal P.C.B. Ass'y (USA, CAN, OTR)	1
	★	CA81744A	Speaker Terminal P.C.B. Ass'y (EP)	1
	★	CA81807A	Speaker Terminal P.C.B. Ass'y (UK, AUS)	1
	★	BA08181A	Speaker Terminal P.C.B. Ass'y (JPN)	1
16		0B80199A	AC Power Cord (USA, CAN)	1
		0B08093U	AC Power Cord (EP)	1
		0C85878A	AC Power Cord (UK)	1
		0B80148A	AC Power Cord (AUS)	1
		0C85877A	AC Power Cord (OTR)	1
		0B90274A	AC Power Cord (JPN)	1
17		0B90280A	Cord Bushing	1
18		0B81928A	AC Outlet (USA, CAN, OTR)	1
		0B81987A	AC Outlet (EP)	1
		0C85876A	AC Outlet (UK)	1
		0B81988A	AC Outlet (AUS)	1
		0B81986A	AC Outlet (JPN)	1
19		0B90316A	Antenna Holder	1
20		JA04383A	Ground Terminal Ass'y	1
21		0J05703A	Lug Terminal	1
22		0C09584A	Antenna Terminal F (JPN)	1
		0B81979A	Antenna Terminal (EP, UK)	1
23		0C85445A	Ground Washer 10mm (EP, UK, JPN)	1
24		0C85442A	Lug Terminal (EP, UK, JPN)	1
25		0C85466A	Rear Panel (USA, CAN)	1
		0C85597A	Rear Panel (EP)	1
		0C85874A	Rear Panel (UK)	1
		0C85875A	Rear Panel (AUS)	1
		0C85598A	Rear Panel (OTR)	1
		0H05983A	Rear Panel (JPN)	1
26		0B90350A	Fuse T2.5A 250V [F403] (EP, UK, AUS)	1
27		0C85599A	Insulator (EP, UK, AUS)	1
—		CA81834A	IFS/DU Switch P.C.B. Ass'y (OTR)	1
—		0C85600A	Voltage Selector (OTR)	1
L01		0E00868A	BT3x8 ⊕ Binding	
L02		0E00857A	BT3x6 ⊕ Binding	
L03		0C85421A	ST4x6 ⊕ Binding	
L04		0E00896A	M3x6 ⊕ Binding	
L05		0E00860A	BT3x6 ⊕ Binding (Black Chromate)	
L06		0E00948A	BT3x10 ⊕ Binding (Black Chromate)	
		0E00985A	M3x6 ⊕ Binding (Black Chromate) (OTR)	
		0E03072A	M2.6x6 ⊕ Binding (Black Chromate) (OTR)	

5.4. Heat Sink Ass'y (B01)

Schematic Ref. No.	Part No.	Description	Q'ty
B01	—	Heat Sink Ass'y	1
01	0B10199A	TR 2SC3421 [Q306L/R]	2
02	0B19607A	Thermister 50KD-5 [TH301]	1
03	0J05615A	TH Holder	1
04	0B10288A	TR 2SD1407 [Q307L/R]	2
05	0B10289A	TR 2SB1016 [Q308L/R]	2
06	0J05671A	Insulator TO-3P	4
07	0B10250A	TR 2SC3856 [Q309L/R]	2
08	0B10251A	TR 2SA1492 [Q310L/R]	2
L01	0E00868A	BT3x8 ⊕ Binding	
L02	0E00986A	M3x10 ⊕ Binding	
L03	0E00994A	M3x12 ⊕ Binding	

5.4. Heat Sink Ass'y (B01)

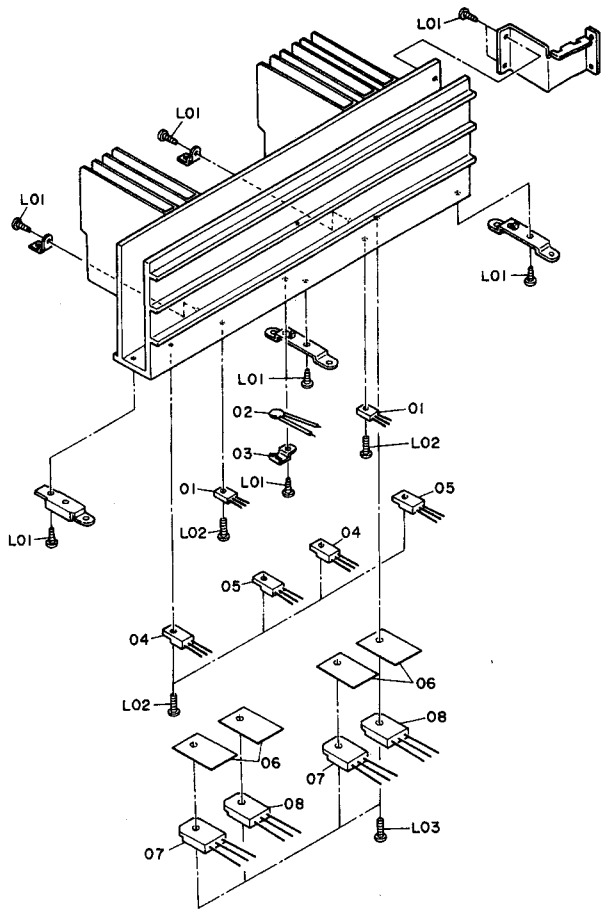


Fig. 5.4

6. MOUNTING DIAGRAMS AND PARTS LIST

Notes: 1. Mounting diagram shows a dip side view of the printed circuit board.
2. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.
3. Following transistors are interchangeable with each other.
   a. 2SA733, 2SA608SP, 2SA1048, 2SA1175
   b. 2SC945, 2SC536SP, 2SC2458, 2SC2785
4. Abbreviation for part name:
   TR — Transistor, SiD — Silicon Diode, ZD — Zener Diode, Varicap — Variable Capacitance Diode
   RK — Carbon Resistor, RM — Metal Film Resistor, RF — Fail Safe Type Resistor, RC — Cement Resistor
   CE — Electrolytic Capacitor, CML — Mylar Capacitor, CC — Ceramic Capacitor, CPP — PP Capacitor,
   CMM — Metalized Mylar Capacitor, CSP — Polystyrene Capacitor, C — Mica Capacitor
   CT — Tantalum Capacitor

6.1. AC Outlet P.C.B. Ass'y

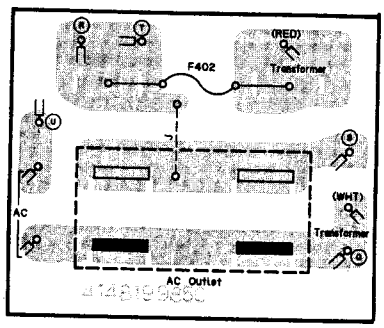


Fig. 6.1.1 USA, CAN, OTR, JPN

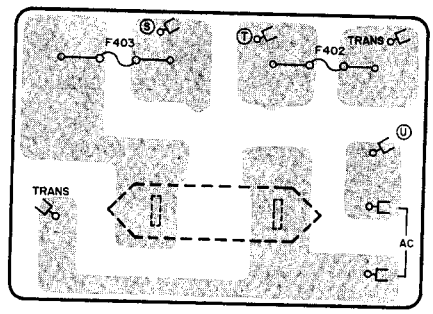


Fig. 6.1.2 EP, UK

6.2. Power Switch P.C.B. Ass'y

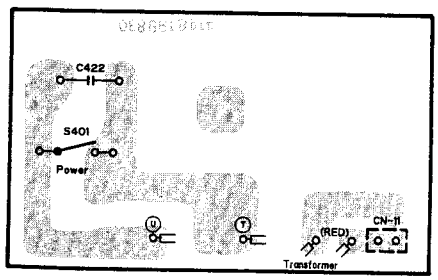


Fig. 6.2

6.3. Volume LED P.C.B. Ass'y

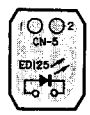


Fig. 6.3

6.4. Audio Mute P.C.B. Ass'y

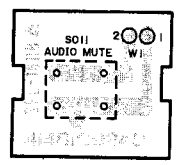


Fig. 6.4

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.1. AC Outlet P.C.B. Ass'y		
★	CA81718A	AC Outlet P.C.B. Ass'y (USA, CAN)
★	CA81809A	AC Outlet P.C.B. Ass'y (OTR)
★	BA08182A	AC Outlet P.C.B. Ass'y (JPN)
	0C85498A	AC Outlet P.C.B.
	0B81930A	Fuse Holder (2)
★	CA81745A	AC Outlet P.C.B. Ass'y (EP, UK)
	0C85880A	AC Outlet P.C.B.
	0B81848A	Fuse Holder (4)
★	CA81808A	AC Outlet P.C.B. Ass'y (AUS)
	0C85879A	AC Outlet P.C.B.
	0B81848A	Fuse Holder (4)
6.2. Power Switch P.C.B. Ass'y		
★	CA81720A	Power Switch P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)
★	BA08184A	Power Switch P.C.B. Ass'y (JPN)
	0C85496A	Power Switch P.C.B.
C422	0B41825A	CC 4700P AC400V (USA, CAN, EP, UK, AUS, OTR)
	0B41826A	CC 4700P AC250V (JPN)
S401	0B71011A	Power Switch
CN11	0B81666A	2P S-Post
	0C85360A	Power Switch Bracket (1)
6.3. Volume LED P.C.B. Ass'y		
★	CA81715A	Volume LED P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)
★	BA08179A	Volume LED P.C.B. Ass'y (JPN)
	0C85494A	Volume LED P.C.B.
ED125	0C85387A	LED SLR-34DC3F (USA, CAN, EP, UK, AUS, OTR)
	0B12710A	LED SLR-34MW3F (JPN)
CN5	0C85405A	2P Connector Ass'y 200mm
6.4. Audio Mute P.C.B. Ass'y		
★	CA81713A	Audio Mute P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)
★	BA08177A	Audio Mute P.C.B. Ass'y (JPN)
	0C85495A	Audio Mute P.C.B.
S011	0B70130A	Tact Switch (1)
W-1	0C85497A	Ribbon Wire 2P (1)

6.5. Headphone P.C.B. Ass'y

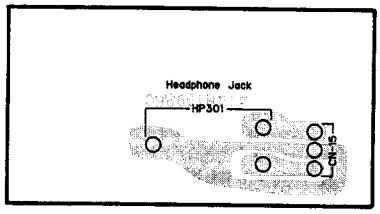


Fig. 6.5

6.6. Motor Volume P.C.B. Ass'y

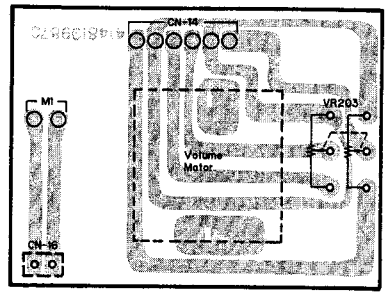


Fig. 6.6

6.7. Selector P.C.B. Ass'y

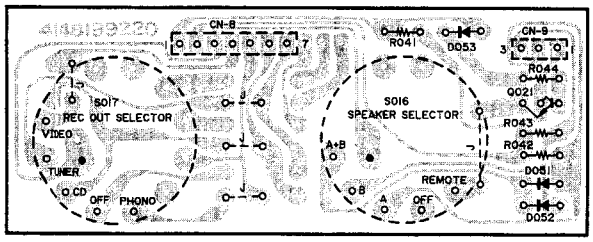


Fig. 6.7

6.8. Speaker Terminal P.C.B. Ass'y

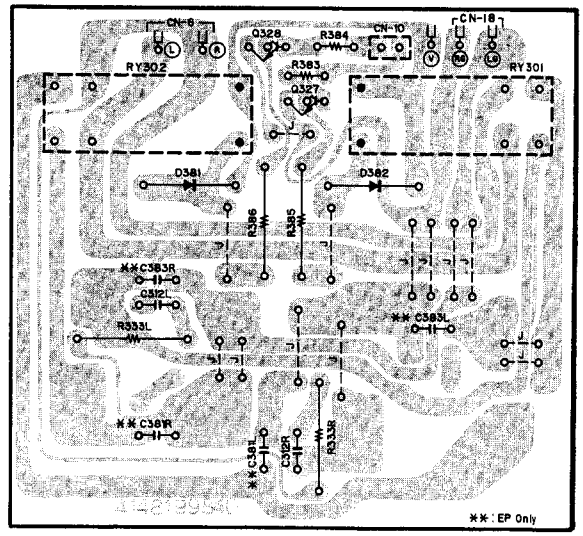


Fig. 6.8

*: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.5. Headphone P.C.B. Ass'y		
*	CA81719A	Headphone P.C.B. Ass'y (USA, CAN) EP, UK, AUS, OTR)
*	BA08183A	Headphone P.C.B. Ass'y (JPN)
	0C85502A	Headphone P.C.B.
HP301	0B81757A	Headphone Jack
CN15	0C85503A	3P Connector Ass'y
6.6. Motor Volume P.C.B. Ass'y		
*	CA81722A	Motor Volume P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)
*	BA08186A	Motor Volume P.C.B. Ass'y (JPN)
	0C85504A	Motor Volume P.C.B.
VR203	0C85505A	VR 50KBx2
CN14	0C85506A	6P Connector Ass'y
CN16	0B81666A	2P S-Post
W-2	0C85507A	Ribbon Wire 2P

Schematic Ref. No.	Part No.	Description
6.7. Selector P.C.B. Ass'y		
*	CA81714A	Selector P.C.B. Ass'y (USA, CAN, EP, UK, AUS, OTR)
*	BA08178A	Selector P.C.B. Ass'y (JPN)
	0C85538A	Selector P.C.B.
Q021	0B06100A	TR 2SC945
D051,052	0B06398A	SiD 1SS176
D053	0B06398A	SiD 1SS176
R041	0B09725A	RK 100K 1/6W J
R042,043	0B09701A	RK 10K 1/6W J
R044	0B09701A	RK 10K 1/6W J
S016,017	0B70141A	Rotary Switch
CN8	0B81671A	7P S-Post
CN9	0B81667A	3P S-Post

Schematic Ref. No.	Part No.	Description
6.8. Speaker Terminal P.C.B. Ass'y		
*	CA81717A	Speaker Terminal P.C.B. Ass'y (USA, CAN, OTR)
*	CA81744A	Speaker Terminal P.C.B. Ass'y (EP)
*	CA81807A	Speaker Terminal P.C.B. Ass'y (UK, AUS)
*	BA08181A	Speaker Terminal P.C.B. Ass'y (JPN)
	0C85548A	Speaker Terminal P.C.B.
Q327,328	0B06142A	TR 2SC2240 (BL)
D381,382	0B12586A	SiD 1N4002L
R333L,R	0B24181A	RF 10 1W J
R383,384	0B09701A	RK 10K 1/6W J
R385,386	0B24253A	RF 820 2W
C312L,R	0B05796A	CML 0.047μ 50V J
C381L,R	0B05681A	CML 0.01μ 50V J (EP)
C383L,R	0B05681A	CML 0.01μ 50V J (EP)
RY301,302	0B90331A	Relay VB-24MB U
CN6	0C85546A	4P Connector Ass'y 400mm
CN10	0B81666A	2P S-Post
	0C85545A	8P Speaker Terminal (1)

6.9. Power Supply P.C.B. Ass'y

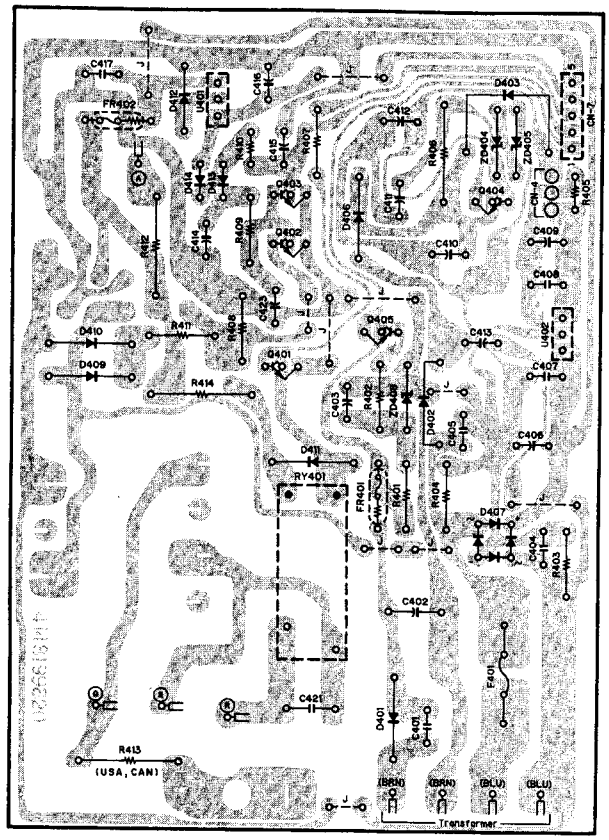


Fig. 6.9

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.9. Power Supply P.C.B. Ass'y		
★	CA81716A	Power Supply P.C.B. Ass'y (USA, CAN)
★	CA81743A	Power Supply P.C.B. Ass'y (EP, UK, AUS)
★	CA81838A	Power Supply P.C.B. Ass'y (OTR)
★	BA08180A	Power Supply P.C.B. Ass'y (JPN)
	0C85544A	Power Supply P.C.B.
U401	0B11010A	IC μPC7805
U402	0B11011A	IC μPC7812
Q401,402	0B06100A	TR 2SC945
Q403	0B10399A	TR 2SC2001 (L)
Q404	0B06100A	TR 2SC945
Q405	0B10246A	TR 2SA965 (Y)
ZD404,405	0B12104A	ZD 15V B3
ZD408	0B12255A	ZD 33V B2
D401,402	0B12586A	SiD 1N4002L
D403	0B12586A	SiD 1N4002L
D406	0B12586A	SiD 1N4002L
D407	0B12604A	SiD W02M
D409,410	0B12586A	SiD 1N4002L
D411,412	0B12586A	SiD 1N4002L
D413,414	0B06398A	SiD 1SS176
FR401	0B24023A	Fuse Resistor 1 1/4W
R401	0B05622A	RK 2.2K 1/4W J
R402	0B05577A	RK 330 1/4W J
R403,404	0B01681A	RK 3.3K 1/4W J
R405	0B09685A	RK 2.2K 1/6W J
R406	0B20511A	RK 1K 1/2W J
R407	0B05622A	RK 2.2K 1/4W J
R408	0B05641A	RK 47K 1/4W J
R409	0B01888A	RK 10K 1/4W J
R410	0B09701A	RK 10K 1/6W J
R411	0B01889A	RK 100K 1/4W J
R412	0B24210A	RF 56 1W J
R413	0B05919A	RK 3.3M 1/2W (USA, CAN)
R414	0B24359A	RF 120 1W J
RY401	0B90334A	Relay VS-12MB-VD3
C401	0B09387A	CC 0.047μ 50V Z
C402	0B40124A	CE 1000μ 50V
C403	0B09313A	CE 100μ 50V
C404,405	0B09292A	CC 0.1μ 50V Z
C406	0B40095A	CE 1000μ 25V
C407,408	0B09292A	CC 0.1μ 50V Z
C409	0B40079A	CE 220μ 16V
C410	0B40123A	CE 470μ 50V
C411,412	0B09126A	CE 100μ 35V
C413	0B40123A	CE 470μ 50V
C414	0B01400A	CE 100μ 16V
C415	0B01674A	CE 10μ 25V
C416	0B40067A	CE 470μ 10V
C417	0B09292A	CC 0.1μ 50V Z
C421	0B41825A	CC 4700P AC400V
C423	0B09372A	CE 2.2μ 50V
CN4	0C85542A	3P Connector Ass'y
CN7	0B81762A	5P T-Post
	0B81848A	Fuse Holder (2)
	0J05670A	Earth Plate (1) (USA, CAN, JPN)

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.10. Display & Control P.C.B. Ass'y		
★	CA81712A	Display & Control P.C.B. Ass'y (USA, CAN)
★	CA81742A	Display & Control P.C.B. Ass'y (EP, UK)
★	CA81805A	Display & Control P.C.B. Ass'y (AUS)
★	CA81806A	Display & Control P.C.B. Ass'y (OTR)
★	BA08176A	Display & Control P.C.B. Ass'y (JPN)
	0C85537A	Display & Control P.C.B.
U001	0B11872A	IC μPD57208 CW-A77
U002	0B11530A	IC BA6208
U003	0B11244A	IC LB1413N
Q001,002	0B10328A	TR DTC114TF
Q003,004	0B10328A	TR DTC114TF
Q005,006	0B10328A	TR DTC114TF
Q007,008	0B10325A	TR DTA114TF
Q009	0B10327A	TR DTA144TF
Q010,011	0B10325A	TR DTA114TF
Q012	0B10325A	TR DTA114TF
Q013,014	0B10057A	TR DTA114TS
Q015,016	0B10057A	TR DTA114TS
Q017,018	0B10062A	TR DTC144ES
Q019	0B10062A	TR DTC144ES
Q020	0B06100A	TR 2SC945
ZD024	0B06232A	ZD 9.1V RD9.1EB2
ZD025	0B12159A	ZD 7.5V RD7.5EB2
ED027,028	0C85387A	LED SLR-34DC3F (USA, CAN, EP, UK, AUS, OTR)
	0B12710A	LED SLR-34MW3F (JPN)
ED029	0C85439A	LED SLR-34PC3F (USA, CAN, EP, UK, AUS, OTR)
	0B85387A	LED SLR-34DC3F (JPN)
D001,002	0B06398A	SiD 1SS176
D003	0B06398A	SiD 1SS176
D004	0B12584A	SiD 1N4148
D005,006	0B06398A	SiD 1SS176
D007,008	0B06398A	SiD 1SS176
D010,011	0B06398A	SiD 1SS176
D012,013	0B06398A	SiD 1SS176
D014	0B06398A	SiD 1SS176
D016,017	0B06398A	SiD 1SS176
D018	0B06398A	SiD 1SS176
D019	0B06398A	SiD 1SS176
D020,021	0B06398A	SiD 1SS176
D022,023	0B06398A	SiD 1SS176
D026	0B06398A	SiD 1SS176
D030,031	0B06398A	SiD 1SS176
D032,033	0B06398A	SiD 1SS176
D034,035	0B06398A	SiD 1SS176
D036,037	0B06398A	SiD 1SS176
D038	0B06398A	SiD 1SS176
D039	0B06398A	SiD 1SS176
D048	0B06398A	SiD 1SS176 (EP, UK, JPN)
D049	0B06398A	SiD 1SS176 (AUS, JPN)
D054	0B06398A	SiD 1SS176
X001	0B92031A	Ceramic Resonator 419MHz
L001	0B51291A	Choke Coil 470μ K
RA001,002	0C85397A	R Array 100K x9
R003,004	0B09725A	RK 100K 1/6W J
R005	0B09725A	RK 100K 1/6W J
R006	0B09721A	RK 68K 1/6W J
R007	0B09709A	RK 22K 1/6W J
R008,009	0B09725A	RK 100K 1/6W J
R010	0B09725A	RK 100K 1/6W J
R011,012	0B09661A	RK 220 1/6W J
R013,014	0B09701A	RK 10K 1/6W J
R015	0B09661A	RK 220 1/6W J
R016	0B09701A	RK 10K 1/6W J
R017,018	0B09661A	RK 220 1/6W J
R019	0B09701A	RK 10K 1/6W J
R020,021	0B09701A	RK 10K 1/6W J
R022,023	0B09701A	RK 10K 1/6W J
R024,025	0B09701A	RK 10K 1/6W J
R026	0B09701A	RK 10K 1/6W J
R027	0B09677A	RK 1K 1/6W J
R028	0B09723A	RK 82K 1/6W J
R030,031	0B09701A	RK 10K 1/6W J
R032,033	0B09701A	RK 10K 1/6W J
R039	0B09711A	RK 27K 1/6W J
C001	0B09291A	CC 0.022μ 50V Z
C002	0B01405A	CE 1μ 50V
C003,004	0B41740A	CC 33P 50V J
C005	0B09292A	CC 0.1μ 50V Z
C006	0B09291A	CC 0.022μ 50V Z
C007	0B09292A	CC 0.1μ 50V Z
C008,009	0B01412A	CE 10μ 16V
C010	0B01403A	CE 47μ 16V

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
C034	0B05885A	CE 100μ 10V
C035	0B09292A	CC 0.1μ 50V Z
S001-008	0C85398A	Tact Switch
S009,010	0B70130A	Tact Switch
S012,013	0C85398A	Tact Switch
FL001	0B90463A	F.L. Display FIP8CGM8
CN1	0C85533A	8P Connector Ass'y 300mm
CN2	0C85531A	4P Connector Ass'y 300mm
CN3	0C85530A	4P Connector Ass'y 250mm
CN7	0C85532A	5P Connector Ass'y 500mm
CN8	0C85534A	7P Connector Ass'y 150mm
CN9	0B83494A	3P Connector Ass'y 350mm
CN10	0C85529A	2P Connector Ass'y 500mm
CN11	0C85528A	2P Connector Ass'y 200mm
CN12	0C85535A	8P Connector Ass'y 500mm
CN16	0C85536A	2P Connector Ass'y 150mm
CN17	0C85881A	3P Connector Ass'y 500mm (OTR)
	0C85399A	Remote Control Receiver SBX 1610-52 (1)
	0C85400A	Shield Plate MC (1)
6.11. System Remote P.C.B. Ass'y		
★	CA81721A	System Remote P.C.B. Ass'y (USA. CAN, OTR)
★	CA81810A	System Remote P.C.B. Ass'y (EP, UK, AUS)
★	BA08185A	System Remote P.C.B. Ass'y (JPN)
	0C85540A	System Remote P.C.B.
U701	0B06143A	IC μPD4001BC
U702	0B06219A	IC μPD4081BC
Q701	0B10113A	TR 2SC1815 (G)
Q702	0B06013A	TR 2SA733
Q703	0B10113A	TR 2SC1815 (G)
Q704,705	0B06100A	TR 2SC945
Q706,707	0B06100A	TR 2SC945
Q708	0B06100A	TR 2SC945
Q709	0B10104A	TR DTC114TS
D431	0B12718A	SiD KBU4D
D432	0B12586A	SiD 1N4002L
D701,702	0B06398A	SiD 1SS176
D703,704	0B06398A	SiD 1SS176
D705,706	0B06398A	SiD 1SS176
D707,708	0B06398A	SiD 1SS176
D709	0B06398A	SiD 1SS176
D711,712	0B06398A	SiD 1SS176
D713,714	0B06398A	SiD 1SS176
R431	0B05615A	RK 22K 1/4W J
R701	0B09693A	RK 4.7K 1/6W J
R702	0B09733A	RK 220K 1/6W J
R703	0B09701A	RK 10K 1/6W J
R704	0B09685A	RK 2.2K 1/6W J
R705	0B09731A	RK 180K 1/6W J
R706	0B20093A	RK 1.5M 1/6W J
R707	0B09739A	RK 390K 1/6W J
R708	0B09701A	RK 10K 1/6W J
R709	0B09709A	RK 22K 1/6W J
R710	0B09725A	RK 100K 1/6W J
R711	0B09701A	RK 10K 1/6W J
R712,713	0B09693A	RK 4.7K 1/6W J
R714	0B09677A	RK 1K 1/6W J
R715	0B09717A	RK 47K 1/6W J
R716,717	0B09701A	RK 10K 1/6W J
R718	0B09701A	RK 10K 1/6W J
R719,720	0B09717A	RK 47K 1/6W J
R721,722	0B09701A	RK 10K 1/6W J
R726	0B09637A	RK 22 1/6W J
R728	0B09661A	RK 220 1/6W J
R729	0B09717A	RK 47K 1/6W J
R730	0B09701A	RK 10K 1/6W J
R731	0B09677A	RK 1K 1/6W J
R732	0B09717A	RK 47K 1/6W J
C431,432	0B41901A	CC 0.022μ 500V Z
C433,434	0B40516A	CE 6800μ 63V
C435,436	0B41176A	CML 0.22μ 63V J
C437	0B40029A	CE 4.7μ 50V
C701	0B09290A	CC 0.01μ 50Z
C702	0B01405A	CE 1μ 50V
C703	0B40029A	CE 4.7μ 50V
CN12	0B81765A	8P T-Post
CN18	0B81975A	2P T-Post
	0B81952A	Stereo Mini Jack HTJ-035-11 (2)
	0B81953A	6P DIN Socket LN-0507-06 (1)
	0J05670A	Earth Plate (1)

6.10. Display & Control P.C.B. Ass'y

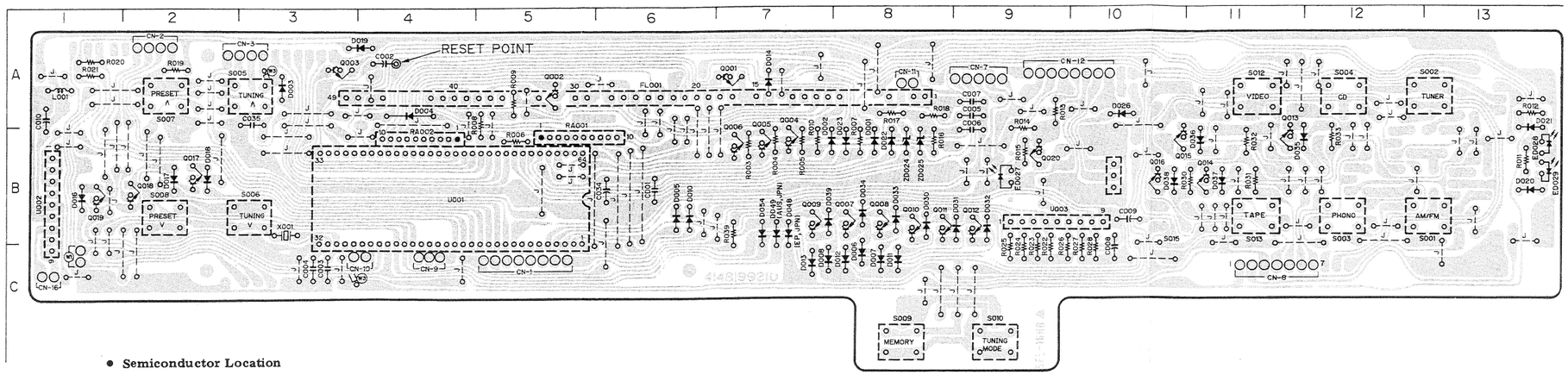


Fig. 6.10

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
U001	B-4	D005	B-6
U002	B-1	D006	C-8
U003	B-9	D007	C-8
Q001	A-7	D008	C-7
Q002	A-5	D010	B-6
Q003	A-3	D011	C-8
Q004	B-7	D012	C-8
Q005	B-7	D013	C-7
Q006	B-7	D014	A-7
Q007	B-8	D016	B-1
Q008	B-8	D017	B-2
Q009	B-7	D018	B-2
Q010	B-8	D019	A-4
Q011	B-8	D020	B-13
Q012	B-9	D021	B-13
Q013	B-11	D022	B-8
Q014	B-11	D023	B-8
Q015	B-10	D026	A-10
Q016	B-10	D030	B-8
Q017	B-2	D031	B-9
Q018	B-2	D032	B-9
Q019	B-1	D033	B-8
Q020	B-9	D034	B-8
ZD024	B-8	D035	B-11
ZD025	B-8	D036	B-11
ED027	B-9	D037	B-11
ED028	B-13	D038	B-10
ED029	B-29	D039	B-7
D001	B-8	D048	B-7
D002	B-7	D049	B-7
D003	A-3	D054	B-7
D004	A-4		

6.11. System Remote P.C.B. Ass'y

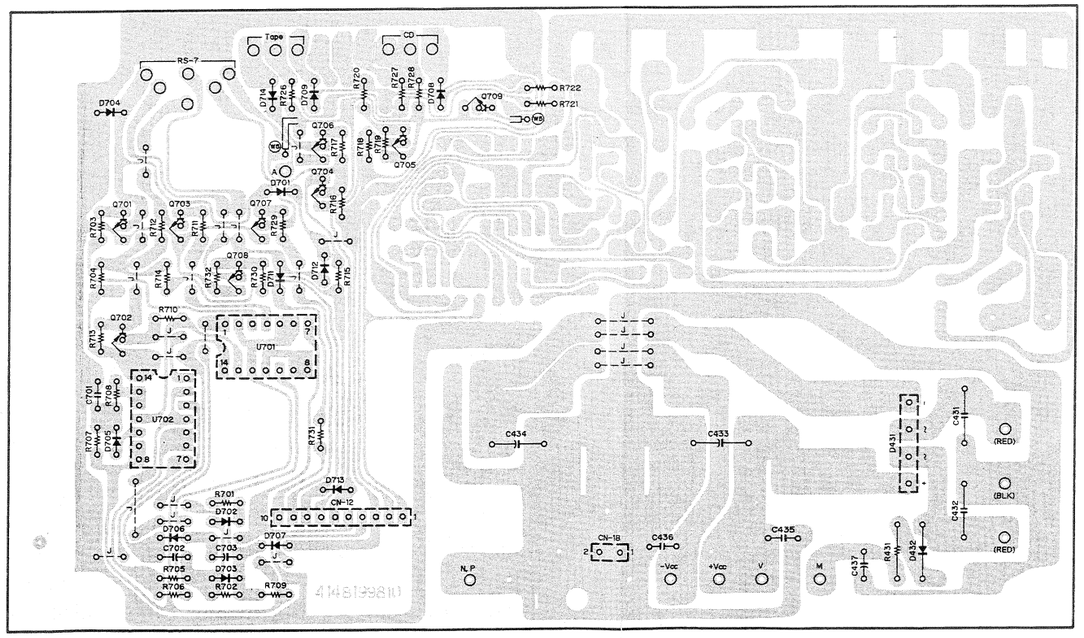


Fig. 6.11

6.12. Main P.C.B. Ass'y

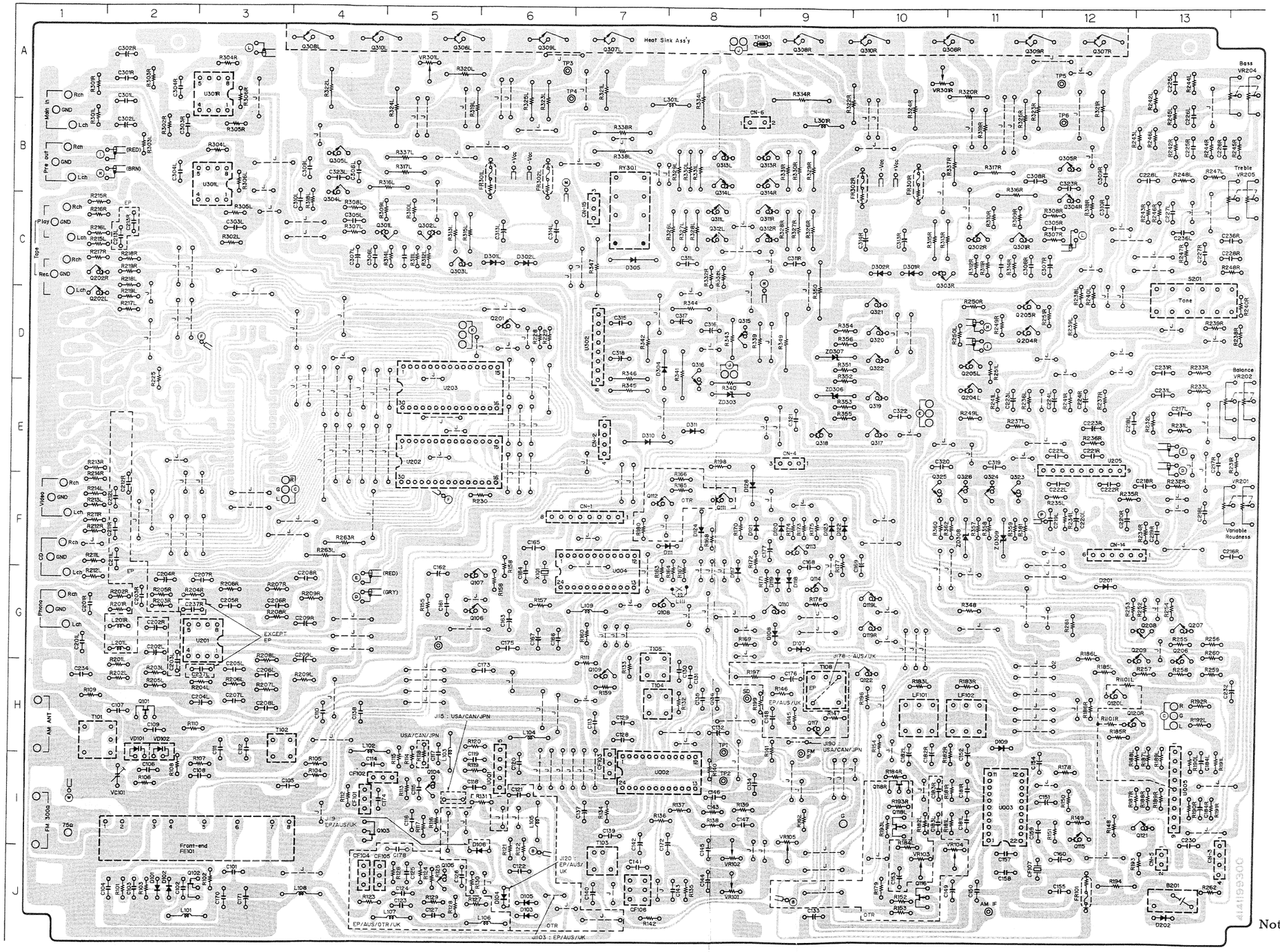


Fig. 6.12

- **Semiconductor Location**

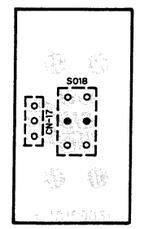
Ref. No.	Location	Ref. No.	Location
U001	I-6	Q311L	C-8
U002	I-7	Q311R	C-9
U003	I-11	Q312L	C-8
U004	G-7	Q312R	C-9
U005	I-13	Q313L	B-8
U201	G-3	Q313R	B-9
U202	E-5	Q314L	B-8
U203	E-5	Q314R	B-9
U205	E-12	Q315	D-8
U301L	B-3	Q316	D-8
U301R	A-3	Q317	E-10
U302	D-7	Q318	E-9
Q101	H-2	Q319	E-10
Q102	J-3	Q320	D-10
Q103	I-4	Q321	D-10
Q104	I-5	Q322	D-10
Q105	J-5	Q323	F-10
Q106	G-6	Q324	F-10
Q107	G-6	Q325	F-10
Q108	G-7	Q326	F-10
Q109	H-7	VD101	H-2
Q110	G-9	VD102	H-2
Q111	F-8	ZD303	E-8
Q112	F-7	ZD306	E-9
Q113	F-9	ZD307	D-9
Q114	G-9	ZD308	F-11
Q115	I-12	ZD309	F-11
Q116	J-10	D101	J-2
Q117	H-9	D102	J-2
Q118L	I-10	D103	J-6
Q118R	I-10	D104	J-6
Q119L	G-10	D105	J-6
Q119R	G-10	D106	J-6
Q120L	H-12	D107	G-9
Q120R	H-13	D108	G-9
Q121	I-13	D109	H-11
Q122	H-10	D111	F-8
Q201	D-6	D117	G-8
Q202L	D-1	D118	G-9
Q202R	C-1	D119	G-9
Q204L	E-11	D120	F-9
Q204R	D-11	D121	F-8
Q205L	D-11	D122	F-9
Q205R	D-11	D123	F-9
Q206	G-13	D124	F-8
Q207	G-13	D126	F-8
Q208	G-13	D201	G-12
Q209	G-13	D202	J-13
Q301L	C-5	D301L	C-6
Q301R	C-11	D301R	C-10
Q302L	C-5	D302L	C-6
Q302R	C-11	D302R	C-10
Q303L	C-5	D304	D-7
Q303R	C-10	D305	C-7
Q304L	B-4	D310	E-7
Q304R	C-12	D311	E-8
Q305L	B-4		
Q305R	B-12		
Q306L	A-5		
Q306R	A-11		
Q307L	A-7		
Q307R	A-12		
Q308L	A-4		
Q308R	A-9		
Q309L	A-5		
Q309R	A-11		
Q310L	A-4		
Q310R	A-10		

Note: Q306L/R — Q310L/R and TH301 are mounted on the Heat Sink Ass'y.

★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
6.12. Main P.C.B. Ass'y		
★	CA81705A	Main P.C.B. Ass'y (USA, CAN)
★	CA81741A	Main P.C.B. Ass'y (EP)
★	CA81802A	Main P.C.B. Ass'y (UK)
★	CA81803A	Main P.C.B. Ass'y (AUS)
★	CA81804A	Main P.C.B. Ass'y (OTR)
★	BA08175A	Main P.C.B. Ass'y (JPN)
	0C85527A	Main P.C.B.
U001	0B11156A	IC TA7060AP
U002	0B11875A	IC LA1266
U003	0B11876A	IC LA3401
U004	0B11877A	IC LC7218
U005	0B11050A	IC NJM4558S
U201	0B06387A	IC NJM2043DD
U202	0B11878A	IC LC7821
U203	0B11879A	IC LC7822
U205	0B11529A	IC μPC4570HA
U301L,R	0B11577A	IC NJM5534DD
U302	0B11246A	IC μPC1237H
Q101	0B10181A	FET 2SK117 (GR)
Q102,103	0B10127A	FET 2SK241 (GR)
Q104	0B06115A	TR 2SC1675 (L)
Q105	0B06115A	TR 2SC1675 (L) (EP, UK, AUS, OTR)
Q106,107	0B06100A	TR 2SC945
Q108	0B10053A	TR DTA144ES
Q109	0B06013A	TR 2SA733
Q110	0B10053A	TR DTA144ES
Q111	0B06100A	TR 2SC945 (OTR)
Q112	0B06013A	TR 2SA733 (OTR)
Q113	0B06100A	TR 2SC945
Q114	0B06013A	TR 2SA733
Q115	0B06100A	TR 2SC945
Q116	0B10151A	FET 2SK364 (OTR)
Q117	0B06100A	TR 2SC945 (EP, UK, AUS)
Q118L,R	0B10151A	FET 2SK364 (OTR)
Q119L,R	0B10053A	TR DTA144ES
Q120L,R	0B06299A	TR 2SC2878
Q121,122	0B06100A	TR 2SC945
Q201	0B06013A	TR 2SA733
Q202L,R	0B06299A	TR 2SC2878
Q204L,R	0B06299A	TR 2SC2878
Q205L,R	0B06299A	TR 2SC2878
Q206	0B06013A	TR 2SA733
Q207	0B06100A	TR 2SC945
Q208	0B06013A	TR 2SA733
Q209	0B06100A	TR 2SC945
Q301L,R	0B06142A	TR 2SC2240 (BL)
Q302L,R	0B06142A	TR 2SC2240 (BL)
Q303L,R	0B06142A	TR 2SC2240 (BL)
Q304L,R	0B10204A	TR 2SA1145
Q305L,R	0B10205A	TR 2SC2705
Q311L,R	0B06142A	TR 2SC2240 (BL)
Q312L,R	0B10050A	TR 2SA970 (BL)
Q313L,R	0B10205A	TR 2SC2705
Q314L,R	0B10050A	TR 2SA970 (BL)
Q315	0B06322A	TR 2SC2002 (K)
Q316	0B06372A	TR 2SA953 (L)
Q317,318	0B10248A	TR 2SD313 (E)
Q319	0B06013A	TR 2SA733
Q320,321	0B10264A	TR 2SB507 (E)
Q322	0B06100A	TR 2SC945
Q323	0B06100A	TR 2SC945
Q324,325	0B06013A	TR 2SA733
Q326	0B06100A	TR 2SC945
VD101,102	0B12606A	Varicap KV1236Z
ZD303	0B12614A	ZD 12V B2
ZD306,307	0B12627A	ZD 18V B2
ZD308,309	0B12614A	ZD 12V B2
D101,102	0B06398A	SiD 1SS176
D103,104	0B06398A	SiD 1SS176 (OTR)
D105,106	0B06398A	SiD 1SS176 (OTR)
D107,108	0B06398A	SiD 1SS176
D109	0B06398A	SiD 1SS176
D111	0B06398A	SiD 1SS176
D117,118	0B06398A	SiD 1SS176
D119,120	0B06398A	SiD 1SS176
D121,122	0B06398A	SiD 1SS176
D123	0B06398A	SiD 1SS176
D124	0B12584A	SiD 1N4148 (EP, UK, AUS)
D126	0B12584A	SiD 1N4148 (EP, UK, AUS)
D201,202	0B06398A	SiD 1SS176
D301L,R	0B06398A	SiD 1SS176
D302L,R	0B06398A	SiD 1SS176
D304	0B12584A	SiD 1N4148
D305,310	0B12586A	SiD 1N4002L
D311	0B06398A	SiD 1SS176
X101	0B92006A	X'tal 7.2MHz
CF101,102	0B41918A	Ceramic Filter SFE10.7ML-A-RED
CF103	0B41918A	Ceramic Filter SFE10.7MS-A-RED
CF104,105	0B41919A	Ceramic Filter SFE10.7MS3GH 15-A (EP, UK, AUS, OTR)
CF106	0B41897A	Ceramic Filter SFZ450G3L
CF107	0B41927A	Ceramic Resonator CSB456F
LF101,102	0B51295A	FM MPX Trap TWS-358-484
T101	0B51269A	AM Ant Coil TWS-385-638
T102	0B51270A	AM OSC Coil TWS-358-644
T103	0B51271A	AM IFT TWS-358-645
T104	0B51272A	FM DET (A) TWS-358-636
T105	0B51273A	FM DET (B) TWS-358-637
T108	0B51289A	LP Filter (EP)
L101,102	0B51274A	Coil 22μH K
L103,104	0B51274A	Coil 22μH K
L105	0B51274A	Coil 22μH K (OTR)
L106,107	0B51274A	Coil 22μH K (EP, UK, AUS, OTR)
L108,109	0B51274A	Coil 22μH K
L111	0C85903A	Coil 100μH K
L201L,R	0B51266A	Audio Coil 48μH (EP)
L301L,R	0C85512A	Audio Coil 0.8μH
VR101,102	0C85452A	Semi VR 100K
VR103	0C85452A	Semi VR 100K
VR104	0C85452A	Semi VR 100K (OTR)
VR105	0C85452A	Semi VR 100K
VR201	0B30088A	Volume 250K (MN)x2
VR202	0B30097A	Volume 300Kx2
VR204	0B30095A	Volume 50KCx2
VR205	0B30090A	Volume 100KCx2
VR301L,R	0C85510A	Semi VR 1K
R101	0B09729A	RK 150K 1/6W J
R102	0B09733A	RK 220K 1/6W J
R103	0B09749A	RK 1M 1/6W J
R104	0B09677A	RK 1K 1/6W J
R105,106	0B09725A	RK 100K 1/6W J
R107,108	0B09725A	RK 100K 1/6W J
R109	0B09749A	RK 1M 1/6W J
R110	0B09667A	RK 390 1/6W J
R111,112	0B09661A	RK 220 1/6W J
R113	0B09667A	RK 390 1/6W J
R114	0B22329A	RM 7.5K 1/6W F
R115	0B22270A	RM 2.4K 1/6W F
R116	0B09645A	RK 47 1/6W J
R117	0B09667A	RK 390 1/6W J
R118	0B09665A	RK 330 1/6W J (USA, CAN, JPN)
R119,120	0B09667A	RK 390 1/6W J
R121	0B09665A	RK 330 1/6W J (OTR)
R122	0B09693A	RK 4.7K 1/6W J (OTR)
R123	0B09665A	RK 330 1/6W J (EP, UK, AUS, OTR)
R124	0B09698A	RK 7.5K 1/6W J (EP, UK, AUS, OTR)
R125	0B09689A	RK 3.3K 1/6W J (EP, UK, AUS, OTR)
R129	0B09677A	RK 1K 1/6W J (EP, UK, AUS, OTR)
R130	0B09693A	RK 4.7K 1/6W J (OTR)
R131	0B09685A	RK 2.2K 1/6W J (OTR)
R132	0B09695A	RK 5.6K 1/6W J
R133	0B09689A	RK 3.3K 1/6W J
R134	0B09677A	RK 1K 1/6W J
R135	0B09689A	RK 3.3K 1/6W J
R136,137	0B09701A	RK 10K 1/6W J
R138,139	0B09689A	RK 3.3K 1/6W J
R140	0B09707A	RK 18K 1/6W J
R141	0B09687A	RK 2.7K 1/6W J
R142	0B09689A	RK 3.3K 1/6W J
R143	0B09651A	RK 82 1/6W J
R145	0B09745A	RK 680K 1/6W J (EP, UK, AUS)
R146	0B09695A	RK 5.6K 1/6W J (EP, UK, AUS)
R147	0B09687A	RK 2.7K 1/6W J (EP, UK, AUS)
R148,149	0B09719A	RK 56K 1/6W J
R150	0B09693A	RK 4.7K 1/6W J
R151	0B09695A	RK 5.6K 1/6W J
R152	0B09725A	RK 100K 1/6W J (OTR)
R153	0B09749A	RK 1M 1/6W J (OTR)
R154	0B09721A	RK 68K 1/6W J
R155	0B09699A	RK 8.2K 1/6W J
R156	0B09701A	RK 10K 1/6W J
R157	0B09697A	RK 6.8K 1/6W J
R158	0B09677A	RK 1K 1/6W J
R159	0B09701A	RK 10K 1/6W J
R160	0B09701A	RK 10K 1/6W J
R162	0B09741A	RK 470K 1/6W J
R163,164	0B09701A	RK 10K 1/6W J
R165	0B09717A	RK 47K 1/6W J (OTR)
R166	0B09677A	RK 1K 1/6W J (OTR)
R167,168	0B09701A	RK 10K 1/6W J
R169	0B09725A	RK 100K 1/6W J
R170,171	0B09701A	RK 10K 1/6W J
R172	0B09709A	RK 22K 1/6W J
R173	0B09719A	RK 56K 1/6W J
R174	0B09701A	RK 10K 1/6W J
R175	0B09725A	RK 100K 1/6W J
R176	0B09727A	RK 120K 1/6W J
R177	0B09693A	RK 4.7K 1/6W J
R178	0B09677A	RK 1K 1/6W J
R179	0B09725A	RK 100K 1/6W J (OTR)
R180	0B09717A	RK 47K 1/6W J (OTR)
R181L,R	0B22465A	RM 120K 1/6W F
R182L,R	0B22286A	RM 3.3K 1/6W F
R183L,R	0B22286A	RM 3.3K 1/6W F
R184L,R	0B09727A	RK 120K 1/6W J
R185L,R	0B09685A	RK 2.2K 1/6W J
R186L,R	0B09695A	RK 5.6K 1/6W J
R187L,R	0B09725A	RK 100K 1/6W J
R188L,R	0B09725A	RK 100K 1/6W J
R189L,R	0B09725A	RK 100K 1/6W J
R190L,R	0B09723A	RK 82K 1/6W J (USA, CAN, OTR, JPN)
	0B09719A	RK 56K 1/6W J (EP, UK, AUS)
R191L,R	0B09677A	RK 1K 1/6W J
R192L,R	0B09725A	RK 100K 1/6W J
R193	0B09701A	RK 10K 1/6W J
R193L,R	0B09749A	RK 1M 1/6W J (OTR)
R194	0B01680A	RK 820 1/4W J
R196	0B09731A	RK 180K 1/6W J
R197	0B01933A	RK 220 1/4W J (EP, UK, AUS)
R198	0B09709A	RK 22K 1/6W J
R199	0B09701A	RK 10K 1/6W J
R201L,R	0B09657A	RK 150 1/6W J
R202L,R	0B09743A	RK 560K 1/6W J
R203L,R	0B09718A	RK 51K 1/6W J
R204L,R	0B22229A	RM 1K 1/6W F
R205L,R	0B09725A	RK 100K 1/6W J
R206L,R	0B22542A	RM 560K 1/6W F
R207L,R	0B22419A	RM 47K 1/6W F
R208L,R	0B22229A	RM 1K 1/6W F
R209L,R	0B09725A	RK 100K 1/6W J
R211L,R	0B09645A	RK 47 1/6W J
R212L,R	0B09719A	RK 56K 1/6W J
R213L,R	0B09645A	RK 47 1/6W J
R214L,R	0B09719A	RK 56K 1/6W J
R215L,R	0B09645A	RK 47 1/6W J
R216L,R	0B09719A	RK 56K 1/6W J
R217L,R	0B09681A	RK 1.5K 1/6W J
R218L,R	0B09725A	RK 100K 1/6W J
R219L,R	0B09717A	RK 47K 1/6W J
R225	0B09725A	RK 100K 1/6W J
R228,229	0B09717A	RK 47K 1/6W J
R230	0B09717A	RK 47K 1/6W J
R231L,R	0B09709A	RK 22K 1/6W J
R232L,R	0B09699A	RK 8.2K 1/6W J
R233L,R	0B09707A	RK 18K 1/6W J
R234L,R	0B09653A	RK 100 1/6W J
R235L,R	0B09729A	RK 150K 1/6W J
R236L,R	0B09743A	RK 560K 1/6W J
R237L,R	0B22457A	RM 100K 1/6W F
R238L,R	0B22229A	RM 1K 1/6W F
R239L,R	0B22351A	RM 12K 1/6W F
R240L,R	0B22351A	RM 12K 1/6W F
R241L,R	0B09677A	RK 1K 1/6W J
R242L,R	0B09703A	RK 12K 1/6W J
R243L,R	0B09669A	RK 470 1/6W J
R244L,R	0B09723A	RK 82K 1/6W J
R245L,R	0B09705A	RK 15K 1/6W J
R246L,R	0B09684A	RK 2K 1/6W J
R247L,R	0B09687A	RK 2.7K 1/6W J
R248L,R	0B09673A	RK 680 1/6W J
R249L,R	0B09701A	RK 10K 1/6W J
R250L,R	0B09701A	RK 10K 1/6W J
R251L,R	0B09653A	RK 100 1/6W J
R252	0B09725A	RK 100K 1/6W J
R253,254	0B09701A	RK 10K 1/6W J
R255	0B09725A	RK 100K 1/6W J
R256	0B09701A	RK 10K 1/6W J
R257	0B09717A	RK 47K 1/6W J
R258	0B09725A	RK 100K 1/6W J
R259	0B09717A	RK 47K 1/6W J
R260	0B09725A	RK 100K 1/6W J
R261	0B09717A	RK 47K 1/6W J
R262	0B09665A	RK 330 1/6W J
R263L,R	0B01857A	RK 1K 1/4W J
R301L,R	0B09733A	RK 220K 1/6W J
R302L,R	0B09709A	RK 22K 1/6W J
R303L,R	0B09653A	RK 100 1/6W J
R304L,R	0B09725A	RK 100K 1/6W J
R305L,R	0B22265A	RM 2.2K 1/6W F
R306L,R	0B22314A	RM 5.6K 1/6W F
R307L,R	0B09677A	RK 1K 1/6W J
R308L,R	0B09701A	RK 10K 1/6W J
R309L,R	0B09671A	RK 560 1/6W J
R310L,R	0B09671A	RK 560 1/6W J
R311L,R	0B09647A	RK 56 1/6W J
R312L,R	0B09647A	RK 56 1/6W J
R313L,R	0B05795A	RK 150 1/4W J
R314L,R	0B09683A	RK 1.8K 1/6W J
R315L,R	0B05641A	RK 47K 1/4W J
R316L,R	0B05959A	RK 75 1/4W J
R317L,R	0B05631A	RK 82 1/4W J
R318L,R	0B09701A	RK 10K 1/6W J
R319L,R	0B09301A	RK 2K 1/4W J
R320L,R	0B05577A	RK 330 1/4W J
R321L,R	0B01679A	RK 100 1/4W J
R322L,R	0B01679A	RK 100 1/4W J
R323L,R	0B24226A	RC 0.22 5W
R324L,R	0B24226A	RC 0.22 5W
R325L,R	0B05560A	RK 18K 1/4W J
R326L,R	0B05622A	RK 2.2K 1/4W J
R327L,R	0B05560A	RK 18K 1/4W J
R328L,R	0B01889A	RK 100K 1/4W J
R329L,R	0B05627A	RK 330K 1/4W J
R330L,R	0B05627A	RK 330K 1/4W J
R331L,R	0B05579A	RK 33K 1/4W J
R332L,R	0B09731A	RK 180K 1/6W J
R334L,R	0B24229A	RF 3.3 1W J
R337L,R	0B01888A	RK 10K 1/4W J
R338L,R	0B24208A	RF 330 2W J
R339	0B01888A	RK 10K 1/4W J
R340	0B01682A	RK 6.8K 1/4W J
R341	0B20520A	RK 1.5K 1/2W J
R342	0B09391A	RK 91K 1/4W J
R343	0B01933A	RK 220 1/4W J
R344	0B01889A	RK 100K 1/4W J
R345	0B05560A	RK 18K 1/4W J
R346	0B05508A	RK 56K 1/4W J
R347	0B24061A	RF 2.7K 1W J
R348	0B09717A	RK 47K 1/6W J
R349,350	0B24357A	RC 220 5W J
R351,352	0B09685A	RK 2.2K 1/6W J
R353,354	0B09685A	RK 2.2K 1/6W J
R355,356	0B09673A	RK 680 1/6W J
R357,358	0B09685A	RK 2.2K 1/6W J
R359,360	0B09673A	RK 680 1/6W J
R361,362	0B09677A	RK 1K 1/6W J
R1101L,R	0B09725A	RK 100K 1/6W J
FR101	0B24358A	Fuse Resistor 47 1/4W
FR301L,R	0B24358A	Fuse Resistor 47 1/4W (USA, CAN, EP, UK, AUS, OTR)
FR302L,R	0B24358A	Fuse Resistor 47 1/4W (USA, CAN, EP, UK, AUS, OTR)
	0B24382A	RF 47 1/4W (JPN)
VC101	0B42010A	C Trimmer 10P
C101	0B41735A	CC 100P 50V J (USA, CAN, OTR, JPN)
	0B41872A	CC 18P 50V J (EP, UK, AUS)
C102	0B09290A	CC 0.01μ 50V Z
C103	0B05583A	CML 0.033μ 50V J
C104	0B09292A	CC 0.1μ 50V Z
C105	0B09387A	CC 0.047μ 50V Z
C106,107	0B09291A	CC 0.022μ 50V Z
C108	0B09291A	CC 0.022μ 50V Z
C109	0B41735A	CC 100P 50V J
C110	0B09291A	CC 0.022μ 50V Z
C111	0B09276A	CC 5P 50V C
C112	0B41896A	CSP 390P 50V J
C113	0B09291A	CC 0.022μ 50V Z
C114,115	0B09291A	CC 0.022μ 50V Z
C116,117	0B09291A	CC 0.022μ 50V Z
C118,119	0B09291A	CC 0.022μ 50V Z
C120	0B09291A	CC 0.022μ 50V Z
C121,122	0B09291A	CC 0.022μ 50V Z (OTR)
C123,124	0B09291A	CC 0.022μ 50V Z (EP, UK, AUS, OTR)
C125,126	0B09291A	CC 0.022μ 50V Z (EP, UK, AUS, OTR)
C127	0B09291A	CC 0.022μ 50V Z (EP, UK, AUS, OTR)
C128,129	0B09291A	CC 0.022μ 50V Z
C130,131	0B09291A	CC 0.022μ 50V Z
C132	0B40024A	CE 0.33μ 50V
C133	0B01403A	CE 47μ 16V
C134,135	0B41735A	CC 100P 50V J
C136	0B09288A	CC 1000P 50V K
C137	0B01674A	CE 10μ 25V
C138	0B09291A	CC 0.022μ 50V Z
C139	0B09387A	CC 0.047μ 50V Z
C140	0B01403A	CE 47μ 16V
C141	0B41908A	CC 82P 50V J
C142	0B40029A	CE 4.7μ 50V
C143	0B09291A	CC 0.022μ 50V Z
C144	0B40029A	CE 4.7μ 50V
C145,146	0B09291A	CC 0.022μ 50V Z
C147	0B09290A	CC 0.01μ 50V Z
C148	0B09148A	CE 10μ 25V (LN) (EP, UK, AUS)
C149	0B09148A	CE 10μ 25V (LN) (USA, CAN, OTR, JPN)
	0B40184A	CE 10μ 16V (BP) (EP, UK, AUS)
C150	0B05682A	CML 0.068μ 50V J
C151	0B01405A	CE 1μ 50V
C152,153	0B01674A	CE 10μ 25V
C154	0B01405A	CE 1μ 50V
C155	0B09291A	CC 0.022μ 50V Z
C157	0B05796A	CML 0.047μ 50V J
C158	0B09287A	CC 680P 50V J
C159	0B40023A	CE 0.22μ 50V
C160	0B01405A	CE 1μ 50V
C161	0B09288A	CC 1000P 50V K
C162	0B40024A	CE 0.33μ 50V
C163	0B40103A	CE 47μ 35V
C164,165	0B09793A	CC 30P 50V J (USA, CAN, EP, UK, AUS, OTR)
	0B41709A	CC 47P 50V J (JPN)
C166	0B09291A	CC 0.022μ 50V Z
C167	0B01403A	CE 47μ 16V
C168	0B09292A	CC 0.1μ 50V Z
C169	0B01405A	CE 1μ 50V
C170	0B09291A	CC 0.022μ 50V Z
C171	0B01403A	CE 47μ 16V
C172	0B01863A	CE 3.3μ 50V
C173	0B09291A	CC 0.022μ 50V Z
C174	0B41933A	CC 15P 50V J
C175	0B09291A	CC 0.022μ 50V Z
C176	0B01403A	CE 47μ 16V (EP, UK, AUS)
C177	0B40023A	CE 0.22μ 50V
C178	0B41872A	CC 18P 50V J (EP, UK, AUS, OTR)
C181L,R	0B41921A	CSP 560P 50V J (USA, CAN)
	0B41215A	CPP 390P 100V J (EP, UK, AUS, OTR, JPN)
C182L,R	0B09148A	CE 10μ 25V (LN)
C183L,R	0B41207A	CPP 180P 100V J (OTR)
C184L,R	0B09148A	CE 10μ 25V (LN)
C201L,R	0B41894A	CSP 100P 50V J
C202L,R	0B09223A	CE 1μ 50V (LN)
C203L,R	0B41209A	CSP 220P 100V J (EP)
C204L,R	0B09148A	CE 10μ 25V (LN)
C205L,R	0B41141A	CPP 4700P 100V G
C206L,R	0B41129A	CPP 1500P 100V G
C207L,R	0B41117A	CPP 470P 100V G
C208L,R	0B41105A	CPP 150P 100V J
C209L,R	0B09223A	CE 1μ 50V (LN)
C211L,R	0B05550A	CML 1000P 50V J (EP)
C212L,R	0B05550A	CML 1000P 50V J (EP)
C213L,R	0B05550A	CML 1000P 50V J (EP)
C216L,R	0B09279A	CC 22P 50V J
C217L,R	0B05550A	CML 1000P 50V J
C218L,R	0B05582A	CML 0.022μ 50V J
C219L,R	0B09322A	CPP 330P 100V J
C220L,R	0B09332A	CE 2.2μ 50V (LN)
C221L,R	0B41735A	CC 100P 50V J
C222L,R	0B41907A	CC 47P 50V J
C223L,R	0B09333A	CE 4.7μ 50V (LN)
C224L,R	0B09332A	CE 2.2μ 50V (LN)
C225L,R	0B05682A	CML 0.068μ 50V J
C226L,R	0B41378A	CML 0.39μ 63V J
C227L,R	0B09189A	CML 2700P 50V J
C228L,R	0B05832A	CML 0.018μ 50V J
C231L,R	0B41476A	CML 0.1μ 63V J
C232	0B40079A	CE 220μ 16V
C234	0B01780A	CML 0.1μ 50V J
C236L,R	0B41495A	CC 180P 50V J
C237L,R	0B41894A	CSP 100P 50V J (USA, CAN, UK, AUS, OTR, JPN)
C301L,R	0B05796A	CML 0.047μ 50V J
C302L,R	0B09333A	CE 4.7μ 50V (LN)
C303L,R	0B41221A	CPP 680P 100V J
C304L,R	0B05914A	CML 0.15μ 50V J
C305L,R	0B05550A	CML 1000P 50V J
C306L,R	0B05796A	CML 0.047μ 50V J
C307L,R	0B01403A	CE 47μ 16V
C308L,R	0B09279A	CC 22P 50V J
C309L,R	0B05914A	CML 0.15μ 50V J
C310L,R	0B41894A	CSP 100P 50V J
C311L,R	0B09292A	CC 0.1μ 50V Z
C313L,R	0B40132A	CE 220μ 63V
C314L,R	0B40132A	CE 220μ 63V
C315	0B40250A	CE 100μ 16V (BP)
C316	0B09148A	CE 10μ 25V (LN)
C317	0B09332A	CE 2.2μ 50V (LN)
C318	0B01400A	CE 100μ 16V
C319,320	0B09292A	CC 0.1μ 50V Z
C321,322	0B09292A	CC 0.1μ 50V Z
C323L,R	0B09393A	CC 68P 50V J
RY301	0B90279A	Relay DS2Y-S-DC24V
FE101	0B91027A	FM Front-End FE415-A03 (USA, CAN, AUS, OTR)
	0B91033A	FM Front-End FE415-G07 (EP, UK)
	0B91032A	FM Front-End FE415-J03 (JPN)
S201	0C85511A	Push Switch
CN1	0B81765A	8P T-Post
CN2,3	0B81761A	4P T-Post
CN4	0B81760A	3P T-Post
CN5	0B81759A	2P T-Post
CN6	0B81975A	2P T-Post
CN14	0B81763A	6P T-Post
CN15	0B81760A	3P T-Post
	0B81980A	2P RCA Jack (1)
	0B81981A	4P RCA Jack (3)
	0C85375A	4P Antenna Terminal (USA, CAN, AUS, OTR) (1)
	0C85443A	2P Antenna Terminal (EP, UK, JPN) (1)
	0E00857A	BT3x6 ⊕ Binding (3)
	0J05670A	Earth Plate (1)

IFS/DU Switch P.C.B. Ass'y (OTR)

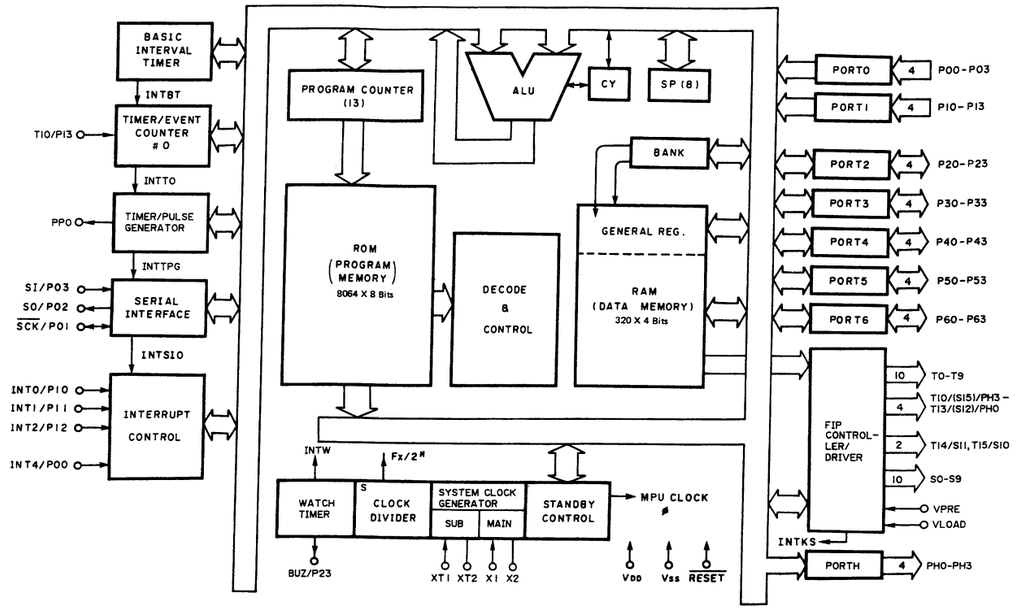


★: Unstocked parts.

Schematic Ref. No.	Part No.	Description
IFS/DU Switch P.C.B. Ass'y (OTR)		
★	CA81834A	IFS/DU Switch P.C.B. Ass'y (OTR)
	0C85882A	IFS/DU Switch P.C.B.
S108	0B70137A	Slide Switch
CN17	0B81667A	3P S-Post

7. SCHEMATIC DIAGRAMS

7.1. IC Block Diagrams



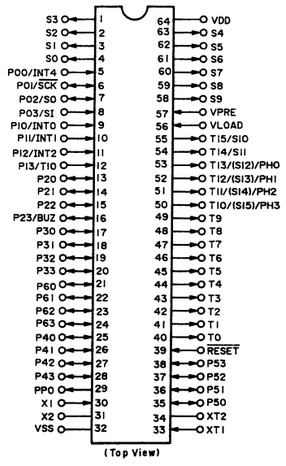


Fig. 7.1.1 MPU μPD75208CW-A77

U001 Microprocessing Unit (MPU) (μPD75208CW-A77)

Pin No.	Signal Name	I/O	Function
1 2 3 4	S3 S2 S1 S0	O	Display segment drive signal/key matrix scan signals.
5	PIN	I	Power ON signal input.
6	CLK	O	Clock output for SO (pin 7) and SI (pin 8).
7	SO	O	Serial output data to U004 (PLL Frequency Synthesizer) and U202/U203 (Analog Function Switch).
8	SI	I	Serial input data from U004.
9	IRP	I	Remote control signal input.
10	PRT	I	Power amp. protect input from U302 (Protector).
11	DUS	I	Frequency Step switch input for Other version.
12	IFS	I	IF Band switch input for Other version.
13	MO+	O	Volume motor drive signal (volume up).
14	MO—	O	Volume motor drive signal (volume down).
15	$\overline{LMU}$	O	Line mute signal. Active "L".
16	$\overline{RMU}$	O	Record mute signal. Active "L".
17	PCE	O	Chip enable signal sent to U004.
18	$\overline{RIN}$	I	Remote control mode select input. When set to "L", speaker can be selected by the remote control unit.
19	$\overline{AIN}$	I	Speaker A select input. Active "L".
20	$\overline{BIN}$	I	Speaker B select input. Active "L".
21 22 23 24	K-IN1 K-IN2 K-IN3 K-IN4	I	Input signals from key matrix circuit.
25	$\overline{AFR}$	O	U202/U203 (Analog Function Switch) reset signal. Active "L".
26	ACE	O	Chip enable signal sent to U202/U203 (Analog Function Switch).
27	SPA	O	Speaker A output enable signal. H: Speaker A output is enabled.
28	SPB	O	Speaker B output enable signal. H: Speaker A output is enabled.
29	PRO	O	Power Application signal for AC outlet. H: Power is applied to the AC outlet.
30 31	X1 X2	—	4.19MHz ceramic oscillator is connected.
32	VSS	—	GND
33	—	—	Grounded.
34	—	—	Open.
35	$\overline{POL}$	O	Power LED drive signal. Active "L".
36	$\overline{STL}$	O	Standby LED drive signal. Active "L".
37 38	PRB PRA	O	Open (not used).
39	$\overline{RESET}$	I	System reset input. Active "L".
40 to 49	T0 to T9	O	Display digit drive signals.
50 51 52 53 54 55	ATT VMP VM2 VM1 VR2 VR1	O	Open (not used).
56	VLOAD	—	—33V.
57	VPRE	—	Approx. —3V.
58	IRL	O	Remote LED drive signal. H: Indicates that the Receiver 2 is receiving a remote control signal.
59 to 63	S8 to S4	O	Display segment drive signal/key matrix scan signals.
64	VDD	—	+5V.

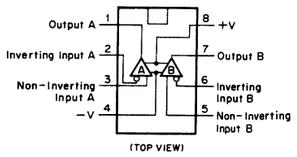


Fig. 7.1.2 Operational Amp. IC NJM2043DD, μPC4570HA

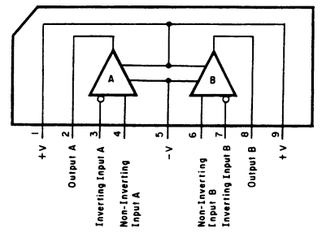


Fig. 7.1.3 Operational Amp. IC NJM4558S

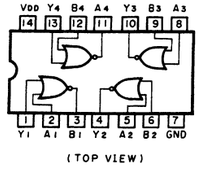


Fig. 7.1.4 NOR Gate C-MOS IC μPD4001BC

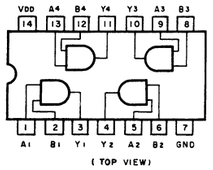


Fig. 7.1.5 AND Gate C-MOS IC μPD4081BC

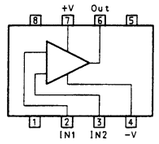


Fig. 7.1.6 Operational Amp. IC NJM5534DD

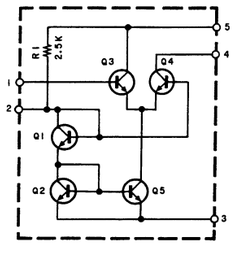


Fig. 7.1.7 FM IF Amp. IC TA7060AP

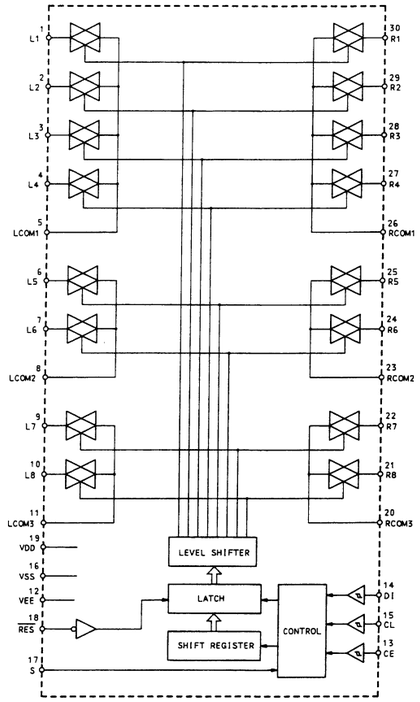


Fig. 7.1.10 Analog Function Switch LC7821 (U202)

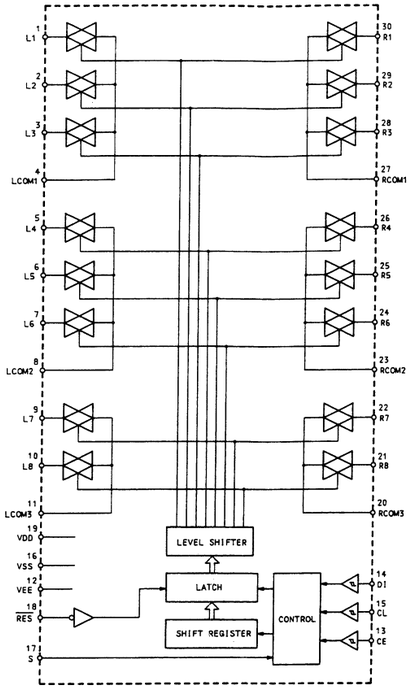


Fig. 7.1.11 Analog Function Switch LC7822 (U203)

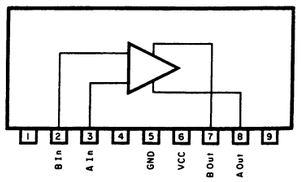


Fig. 7.1.8 Motor Driver BA6208

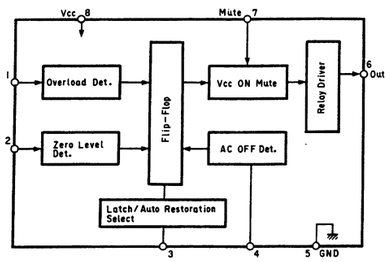


Fig. 7.1.9 Power Amp. Protector μPC1237H (U302)

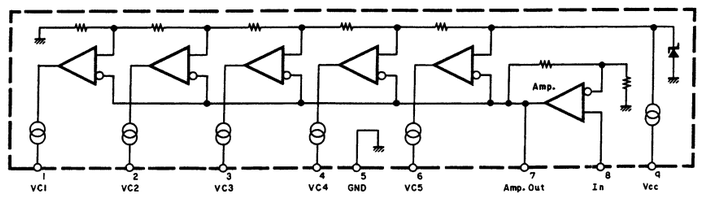


Fig. 7.1.12 Signal Meter Driver LB1413N

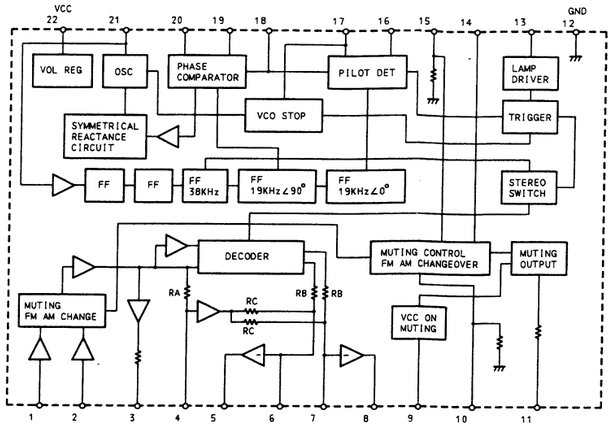


Fig. 7.1.13 Multiplexer LA3401

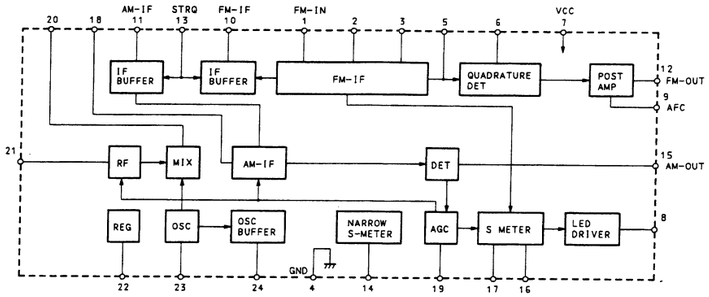


Fig. 7.1.14 FM/AM IF & Detector LA1266

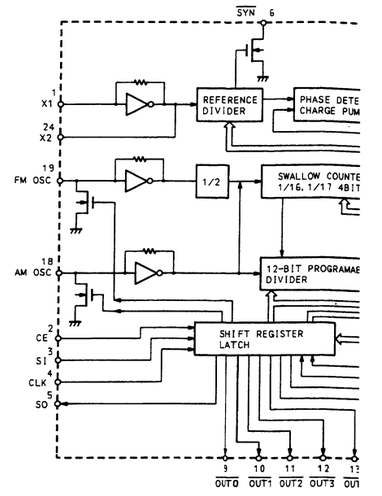
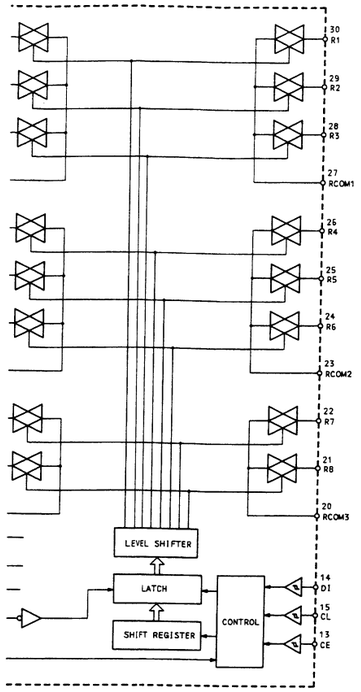
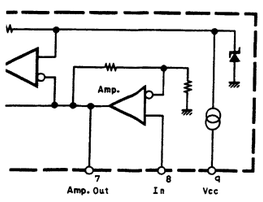


Fig. 7.1.15 PLL Frequenc



1.11 Analog Function Switch LC7822 (U203)



:r LB1413N

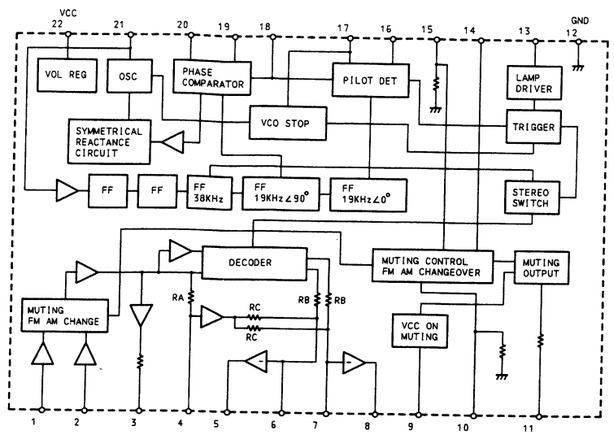


Fig. 7.1.13 Multiplexer LA3401

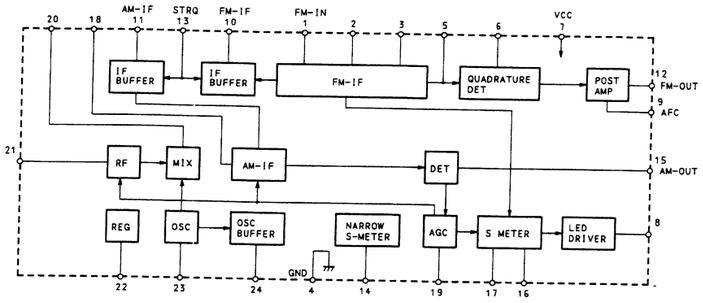


Fig. 7.1.14 FM/AM IF & Detector LA1266

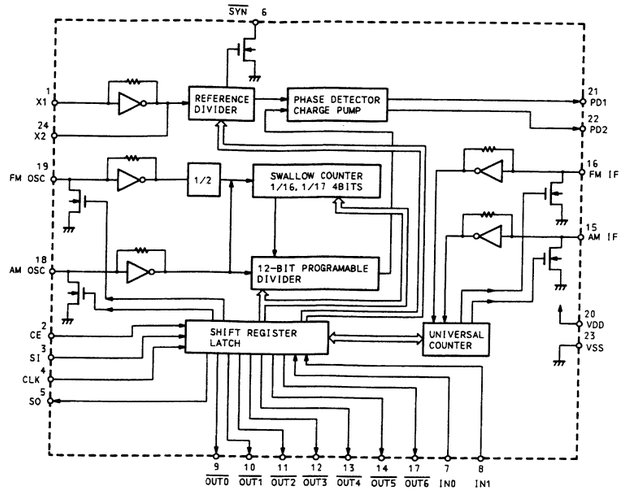
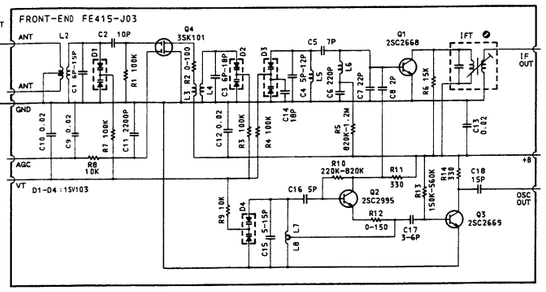


Fig. 7.1.15 PLL Frequency Synthesizer LC7218

U004 PLL Frequency Synthesizer (LC7218)

Pin No.	Signal Name	I/O	Function
1 24	X1 X2	I O	7.2MHz crystal is connected.
2	CE	I	Chip enable input signal. Active "H".
3	SI	I	Serial input data from U001 (MPU).
4	CLK	I	Clock input for SI (pin 3) and SO (pin 5).
5	SO	O	Serial output data to U001.
6	$\overline{SYN}$	O	Not used.
7	$\overline{Stereo}$	I	Stereo signal input. L: Stereo
8	SD	I	SD signal input. H: Station is detected.
9	Wide	O	Wide signal for Other version. H: Wide, L: Narrow
10	NC	O	Open.
11	Seek Mute	O	Seek Mute signal. Active "H".
12	$\overline{DU}$	O	75μs/50μs select signal for Other version. L: 50 μs, H: 75 μs
13	AUT	O	Controls muting. Forcedly sets to monaural.
14	$\overline{AM}$	O	AM mode signal. Active "L".
15	$\overline{AMIF}$	I	AM IF signal input.
16	$\overline{FM\ IF}$	I	FM IF signal input.
17	$\overline{FM}$	O	FM mode signal. Active "L".
18	AM OSC	I	AM local oscillation signal input.
19	FM OSC	I	FM local oscillation signal input.
20	VDD	—	Approx. 5V is supplied.
21	PD1	O	PLL charge pump output. Not used.
22	PD2	O	PLL charge pump output. f>fref.: H, f<fref.: L f=fref.: floating
23	GND	—	GND

7.2. Schematic Diagrams
(1) Tuner Section



(For Japan)

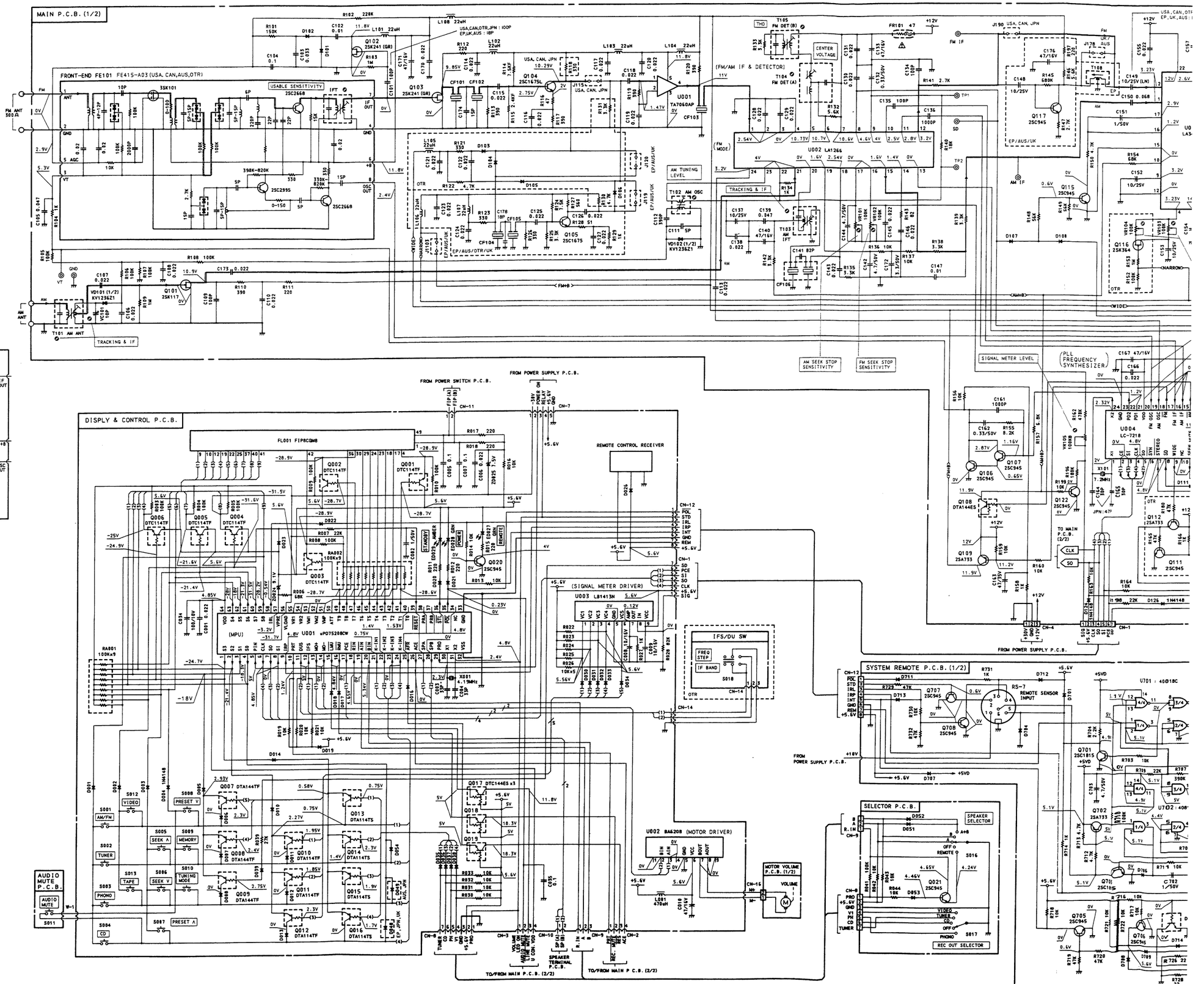


Fig. 7.2.1

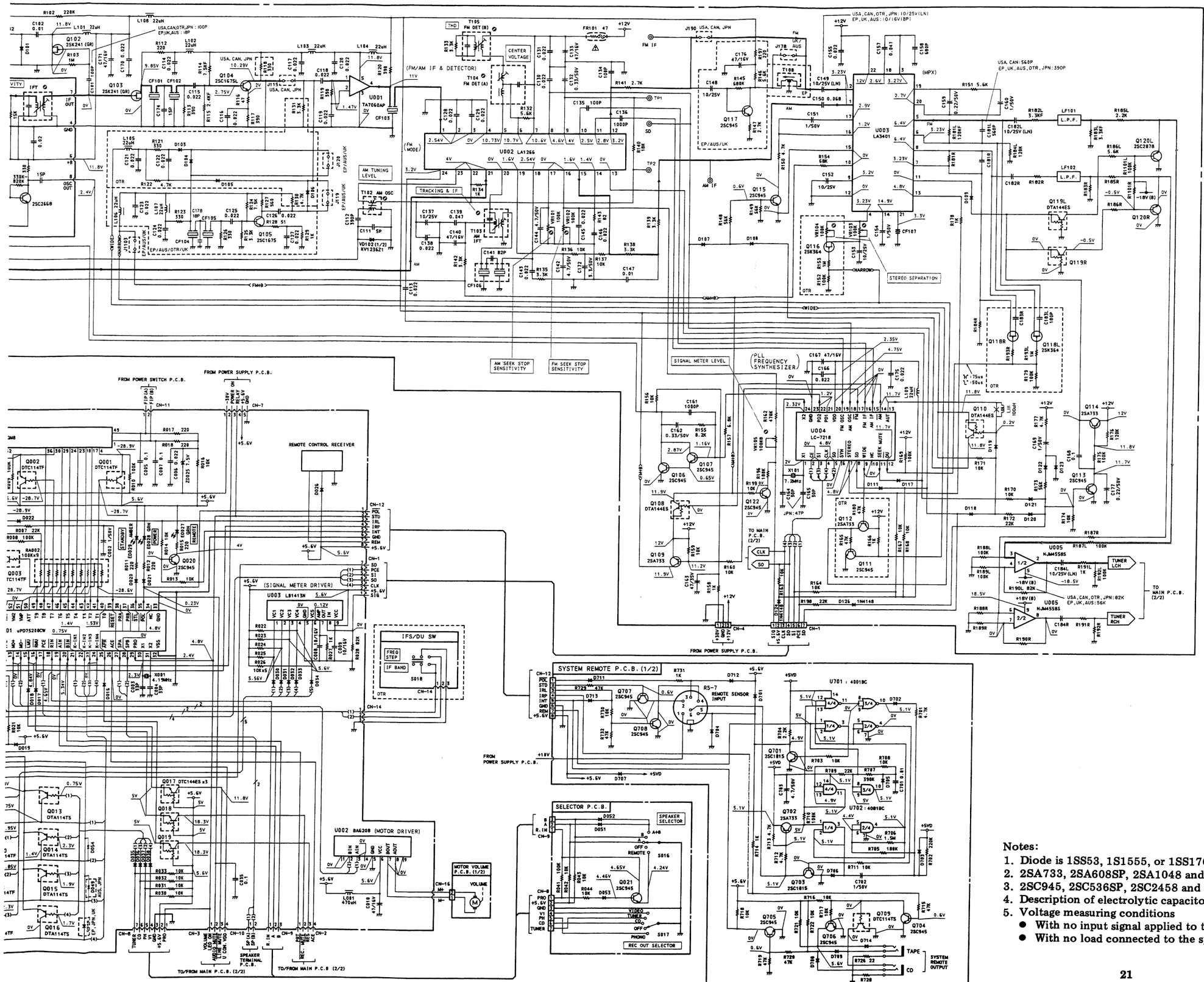
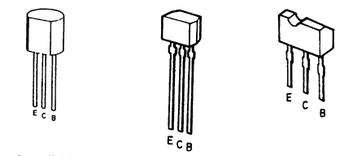


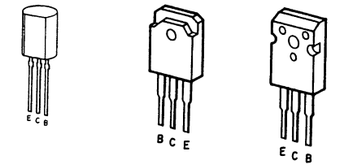
Fig. 7.2.1



2SA733
2SA953
2SA970
2SC945
2SC1675
2SC2002
2SC2240
2SC2878

DTA114TS
DTA144ES
DTC144ES

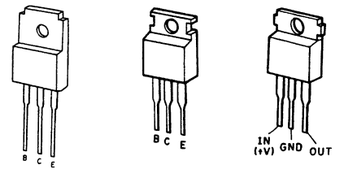
DTA114TF
DTA144TF
DTC114TF



2SA1145
2SC2705

2SA1492
2SC3856

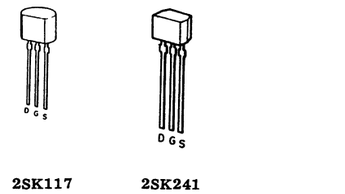
2SC3421



2SB1016
2SD1407

2SA965
2SB507
2SD313

7805
7812



2SK117

2SK241

Notes:

1. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.
2. 2SA733, 2SA608SP, 2SA1048 and 2SA1175 are interchangeable with each other.
3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.
4. Description of electrolytic capacitor: 100/16V = 100μ 16V
5. Voltage measuring conditions
   - With no input signal applied to the input terminals.
   - With no load connected to the speaker terminals.

(2) Amplifier Section

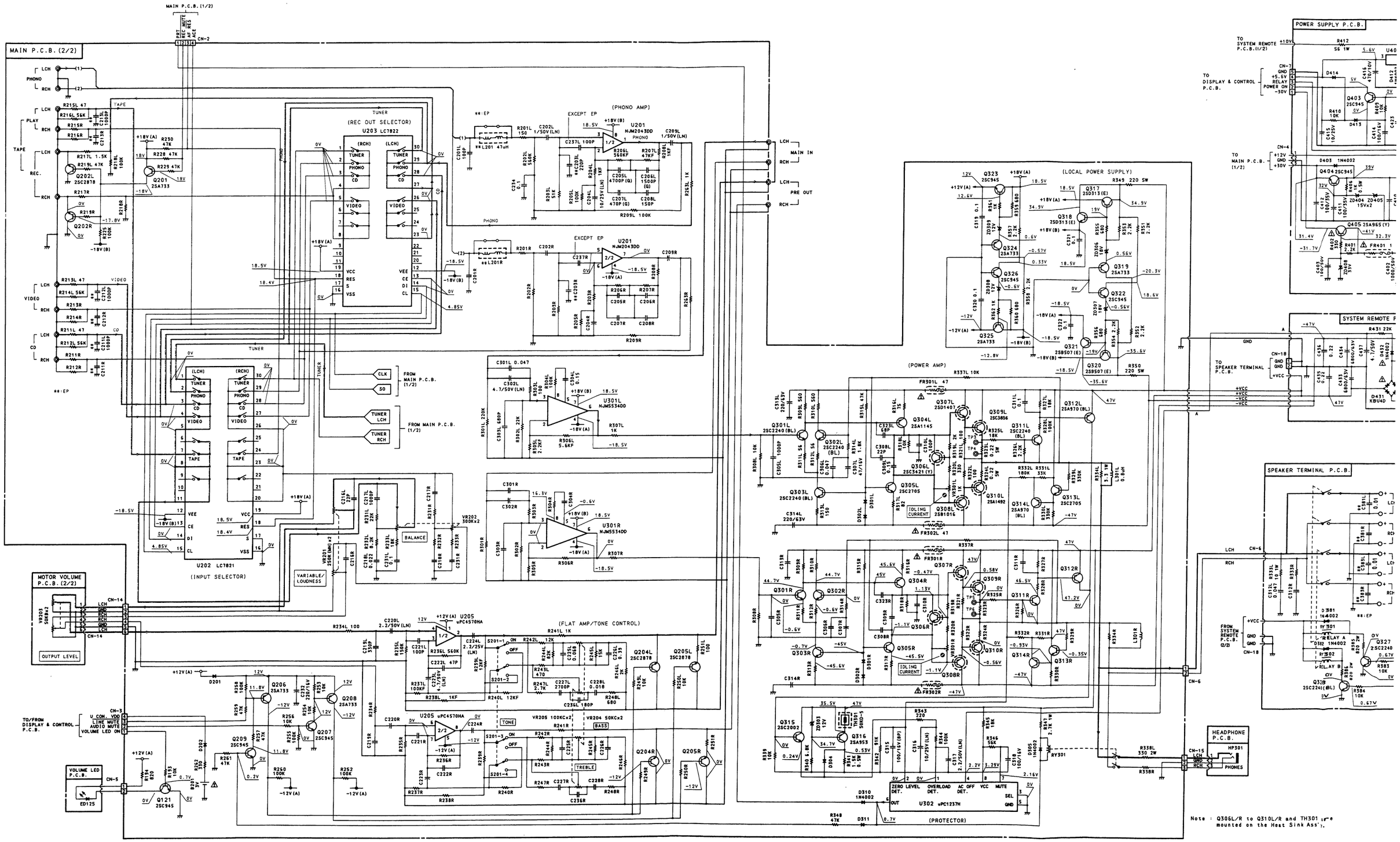
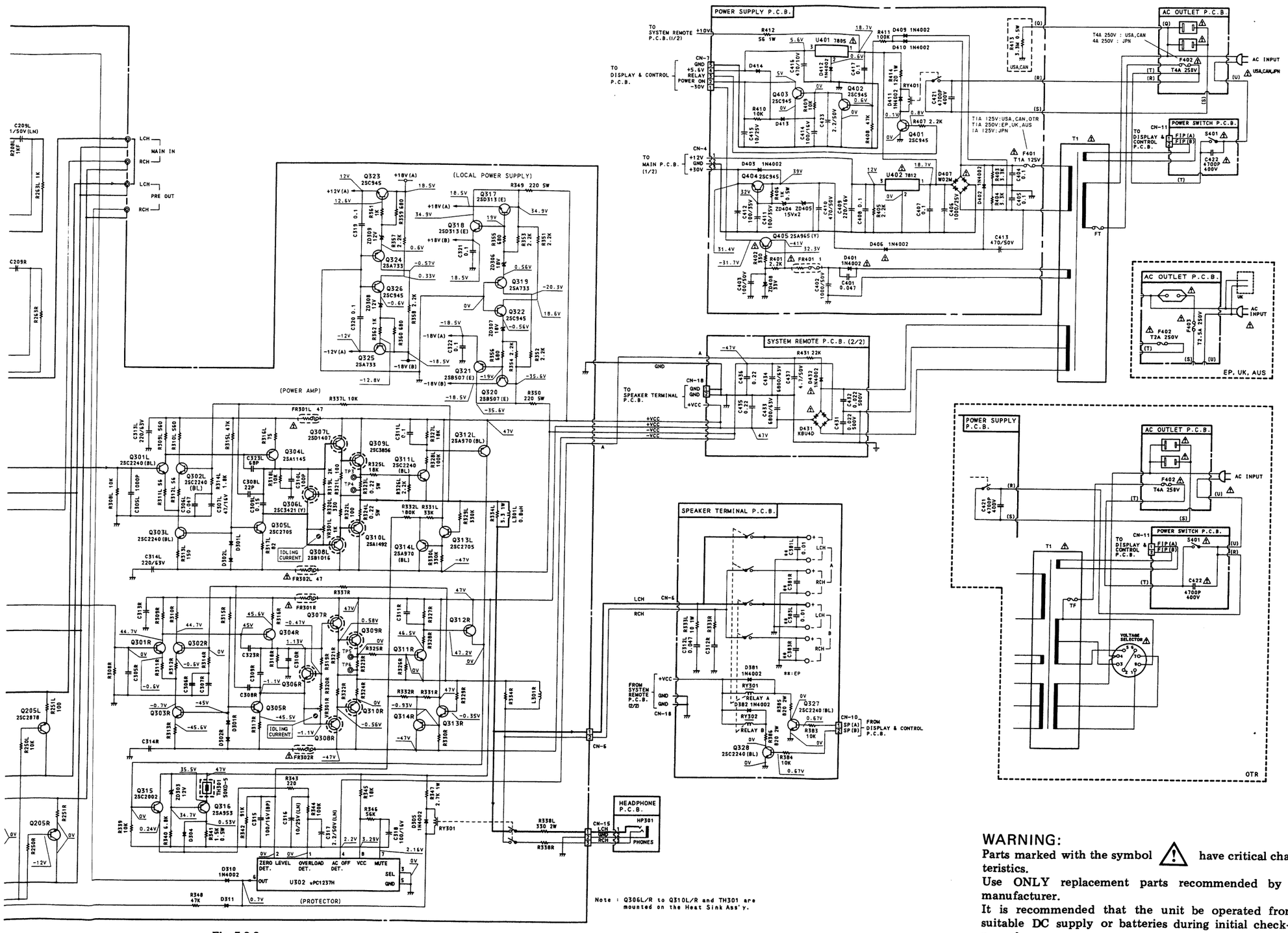


Fig. 7.2.2



Note : Q306L/R to Q310L/R and TH301 are mounted on the Heat Sink Ass'y.

Fig. 7.2.2

WARNING:

Parts marked with the symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.
It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

8. WIRING DIAGRAM

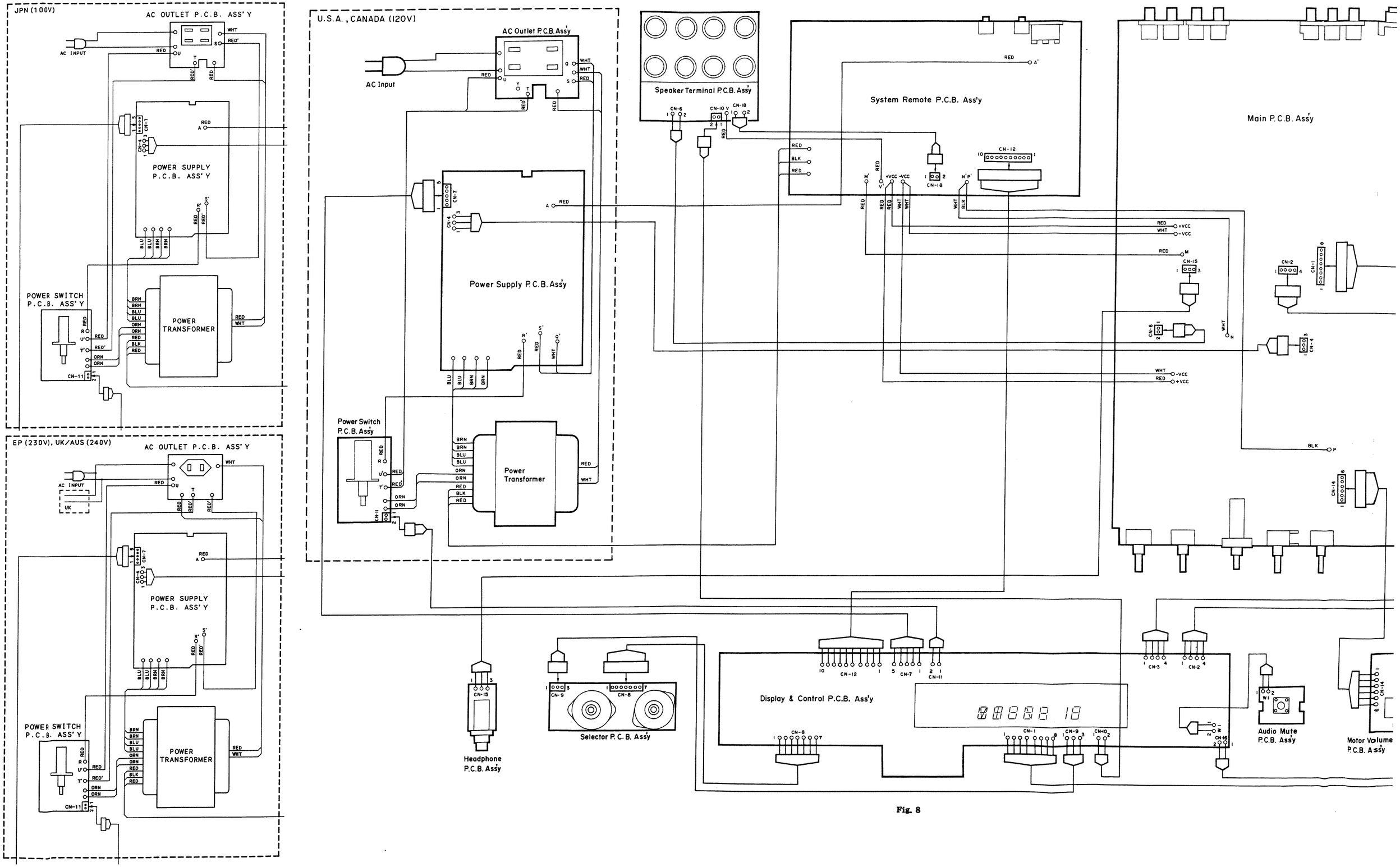


Fig. 8

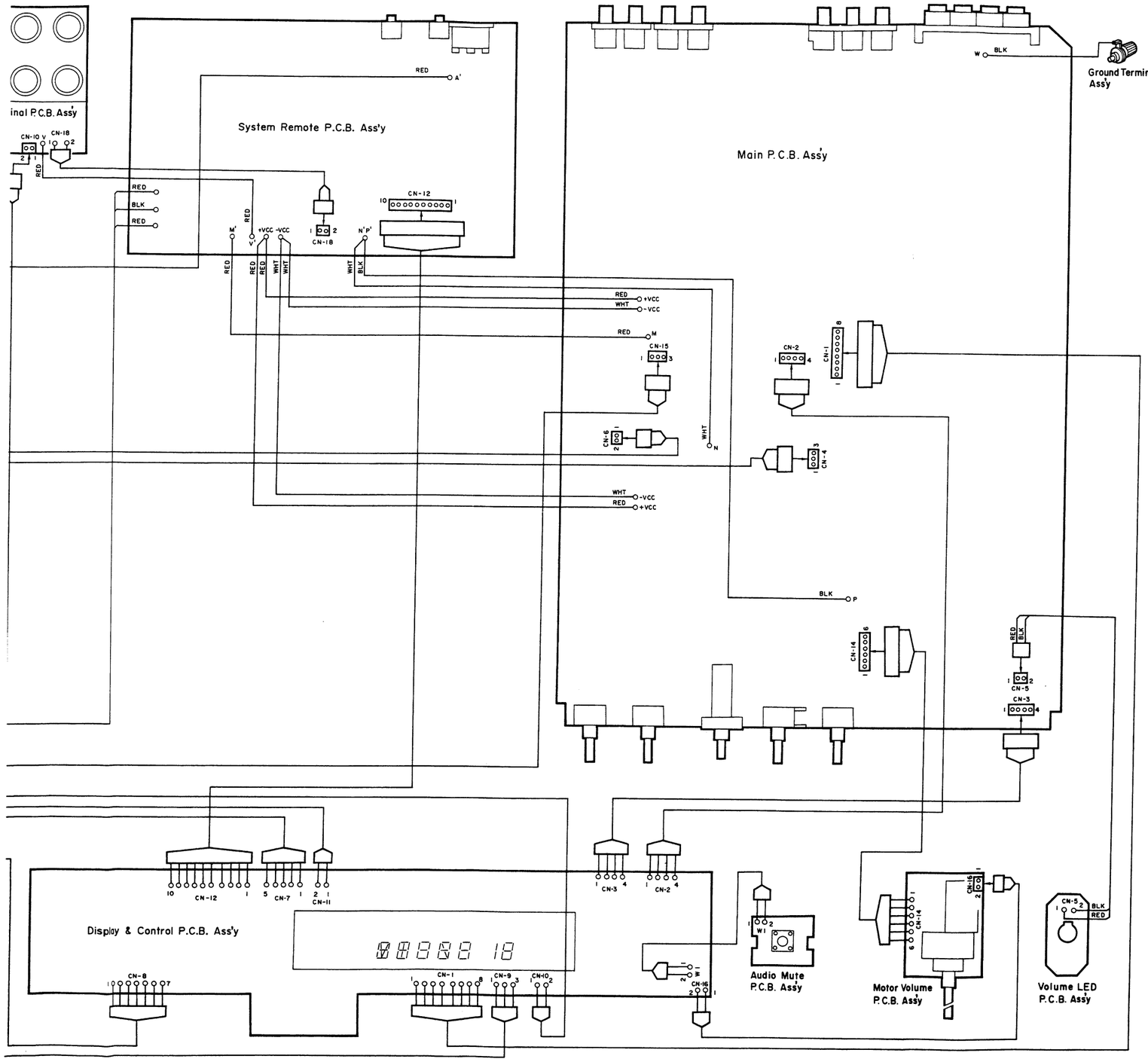
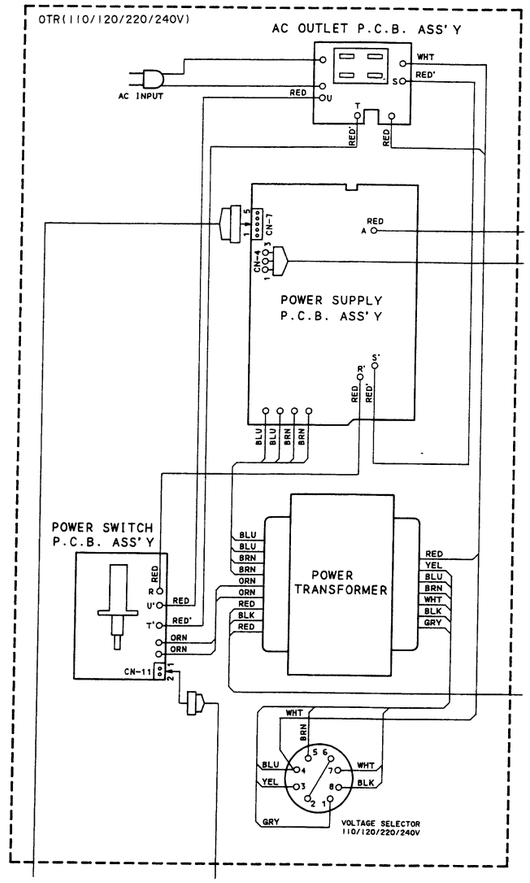


Fig. 8



Notes: 1. Table of wire colors

BRN — Brown	BLU — Blue
RED — Red	VIO — Violet
ORN — Orange	GRY — Gray
YEL — Yellow	WHT — White
GRN — Green	BLK — Black

2. Component side view of the P.C.B. is illustrated unless otherwise specified.
3. Wire tube color is shown in ( ).

9. BLOCK DIAGRAMS

9.1. Tuner & Display Control Section

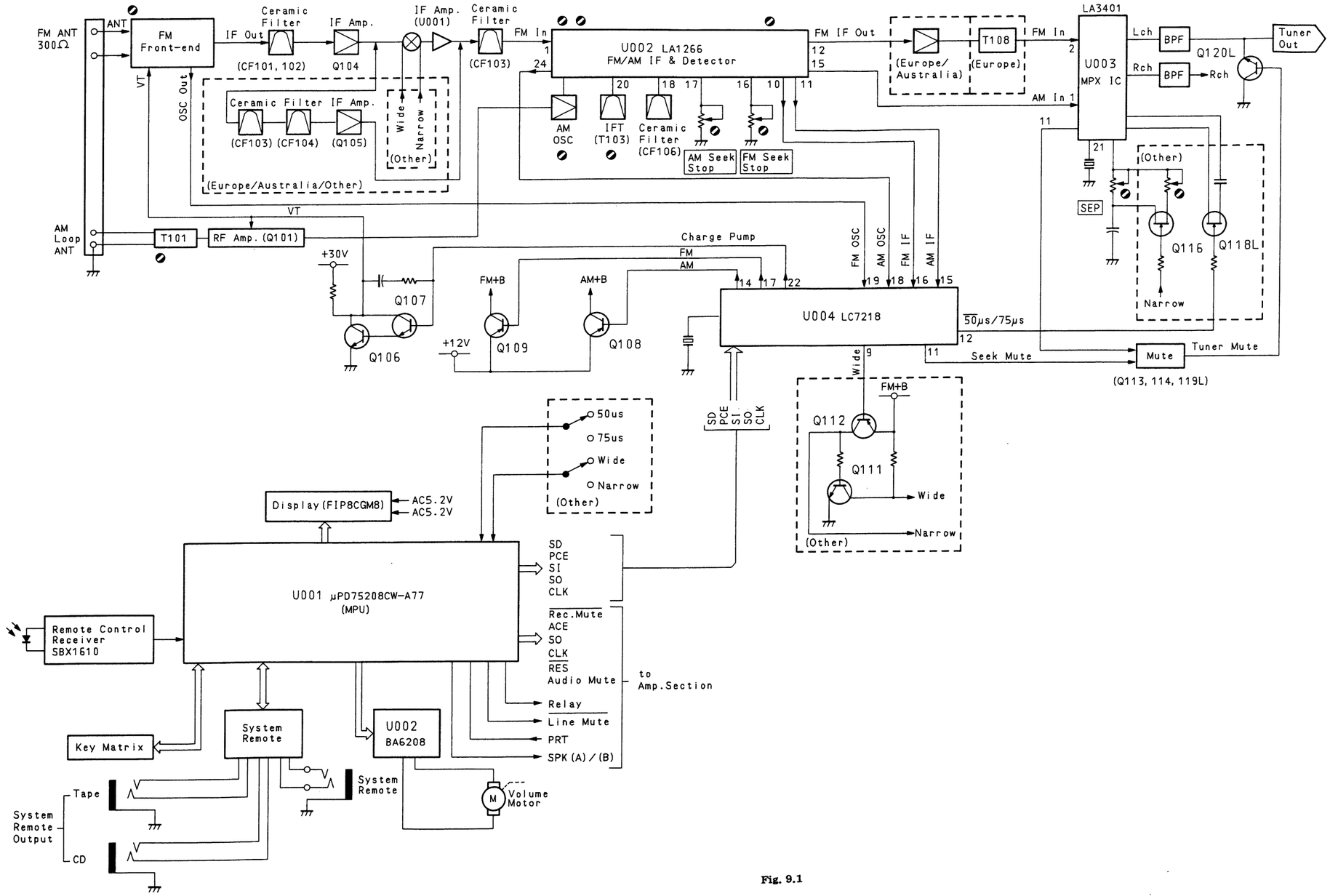


Fig. 9.1

9.2. Amplifier Section

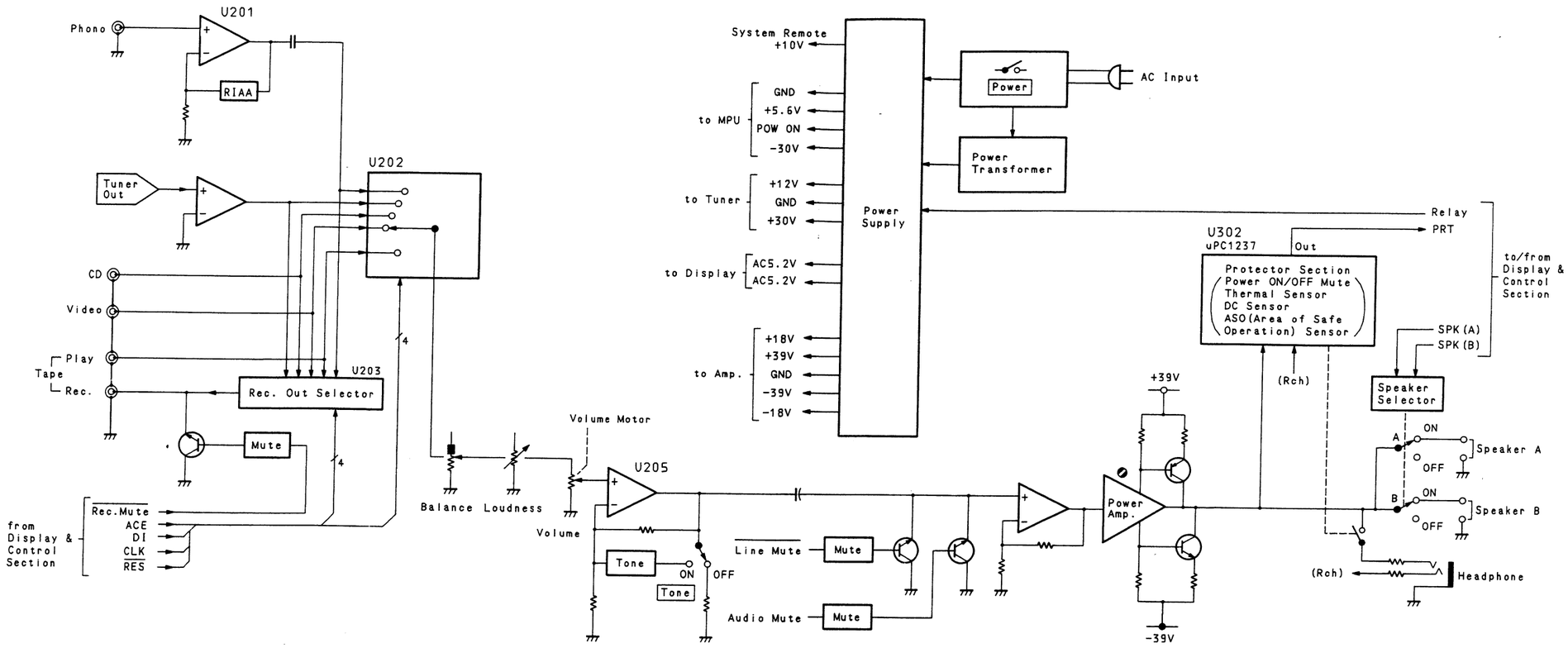


Fig. 9.2

10. SPECIFICATIONS

Power Amplifier Section

Note: Unless noted otherwise, specifications are in accordance with IHF-A-202 measured from any high-level input (CD/VIDEO/TAPE) to the speaker output.

Continuous Average Output Power	**55 watts per channel into 8 ohm, both channels driven, 20—20,000 Hz, at no greater than 0.1% THD**
Dynamic Output Power	75 watts per channel into 8 ohms 95 watts per channel into 4 ohms
Power Bandwidth	5—40,000 Hz
Frequency Response	20—20,000 Hz; +0, —0.5 dB 5—75,000 Hz; +0, —3 dB
Signal to Noise Ratio (A-WTD, input shorted)	Better than 100 dB re rated power Better than 83 dB (IHF-A-202)
Total Harmonic Distortion (8 ohms, rated power, 20 Hz—20 kHz)	Less than 0.1%
Headphone Rated Output (40 ohms)	129 mW
Output Current Capability	14A peak per channel

Preamplifier Section

Note: Unless noted otherwise, specifications are in accordance with IHF-A-202. Except for sensitivity, S/N, tone control and loudness characteristics (which are measured to the speaker outputs), measurements are made from the specified input to Rec. Out.

Sensitivity (for rated output)	
Phono MM	2.5 mV
CD/Tape/Video	150 mV
Main in	1.0 V
Sensitivity (for 1-watt output, IHF-A-202)	
Phono MM	0.34 mV
CD/Tape/Video	20 mV
Main in	135 mV
Input Impedance	
Phono MM	47 kohms
CD/Tape/Video	20 kohms
Main in	20 kohms
Maximum Input Level (1 kHz)	
Phono MM	180 mV
Pre Output Level/Impedance	1.0 V/1 kohms
Record Output Level/ Impedance	150 mV/1.5 kohms
Total Harmonic Distortion (1 kHz, to Rec Out, at 1 V)	
Phono MM	Less than 0.008%
RIAA Deviation	
Phono MM	30—20,000 Hz ±0.5 dB
Signal-to-Noise Ratio (to speaker output, IHF-A-202)	
Phono MM	Better than 78 dB
Tone Controls	
Bass	20 Hz, ±10 dB
Treble	20 kHz, ±10 dB
Variable Loudness (re maximum attenuation: —40 dB at 1 kHz)	20 Hz, +20 dB; 20 kHz, +6 dB
Subsonic Filter (Phono only)	Cutoff Frequency 20 Hz, —6 dB/octave

Tuner Section

[FM]

Note: All RF levels in microvolts given re 300-ohm antenna input.
Modulation: Mono 100%, Stereo Pilot 9%, Stereo Audio Signal 91%.
(European Model; Mono 60%, Stereo Pilot 9%, Stereo Audio Signal 51%)
All measurements made at Rec Out jack.

Frequency Range	87.5—107.9 MHz in 200 kHz steps
IHF Usable Sensitivity (Mono)	12 dBf/2.2 μV
50-dB Quieting Sensitivity	
Mono	15.7 dBf/3.3 μV
Stereo	38.5 dBf/46.1 μV
Signal-to-Noise Ratio at 65 dBf	
Mono	Better than 79 dB
Stereo	Better than 72 dB
Muting Threshold	30 dBf/17.3 μV
Frequency Response	20—15,000 Hz ±1 dB
Total Harmonic Distortion (1 kHz)	
Mono	Less than 0.10%
Stereo	Less than 0.10%
Capture Ratio	2.0 dB
Alternate Channel Selectivity	55 dB (±400 kHz)
Stereo Separation at 1 kHz	Better than 50 dB
Spurious Response Rejection	Better than 90 dB
Image Rejection	Better than 75 dB
IF Rejection	Better than 80 dB
AM Suppression	Better than 60 dB

[AM]

Note: Modulation — 400 Hz, 30%

Frequency Range	520—1,710 kHz in 10 kHz steps
Sensitivity	53 dBμ/m
Signal to Noise Ratio at 90 dBμ/m	Better than 52 dB
Total Harmonic Distortion at 90 dBμ/m	Less than 0.5%
Selectivity	Better than 20 dB (±10 kHz)

General

Power Source	120, 230 or 240 VAC, 50/60 Hz (According to country of sale)
Power Consumption	295 W max.
Convenience Outlets	Switched: 2 (General Model) Switched: 1 (European and Oceanian Model)
Dimensions*	430 (W) x 100 (H) x 370 (D) mm 16-15/16 (W) x 3-15/16 (H) x 14-9/16 (D) inches
Approximate Weight	9.0 kg 19 lbs. 13 oz.

<Remote Control Unit>

Principle	Infrared pulse system
Power Supply	3 VDC (1.5 Vx2)
Dimensions*	64 (W) x 18 (H) x 176 (D) mm 2-1/2 (W) x 11/16 (H) x 6-15/16 (D) inches
Approximate Weight	130 g, 5 oz. (including batteries)

*: Dimensions do not include protruding parts. Height is the panel height without feet.
● Specifications and design are subject to change for further improvement without notice.

Service Manual

Receiver 2

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Nakamichi America Corporation — 19701 South Vermont Ave., Torrance, CA 90502 Phone: (213) 538-8150
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